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Compilation of Records of Surface Waters of the United States, October 1950 to September 1960

Part 3-A. Ohio River Basin Except
Cumberland and Tennessee River Basins

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1725



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Prepared under the direction of E. L. HENDRICKS, Chief, Surface Water Branch

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1725



UNITED STATES DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, *Secretary*

GEOLOGICAL SURVEY

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PREFACE

This report contains summaries of streamflow records in the Ohio River basin, except Cumberland and Tennessee River basins. It was prepared by the United States Geological Survey in the Water Resources Division, L. B. Leopold, chief, under the general direction of E. L. Hendricks, chief, Surface Water Branch, and F. J. Flynn, chief, Reports Section.

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COMPILATION OF RECORDS OF SURFACE WATERS OF OHIO RIVER BASIN EXCEPT CUMBERLAND
AND TENNESSEE RIVER BASINS, 1951-60

PURPOSE AND SCOPE

This volume is one of a series of reports presenting monthly and yearly summaries of streamflow and reservoir data collected by the Geological Survey during the period October 1, 1950, to September 30, 1960. Included with these data are some records furnished by other Federal, State, and private agencies. This series of reports is a condensation of the detailed streamflow information presented in the annual series of reports known as "Surface Water Supply of the United States" for each of the years 1951 through 1960. The area covered by this report is the Ohio River basin except Cumberland and Tennessee River basins.

The purpose of the present series of reports is to make available in summarized form all of the surface-water records collected October 1, 1950, to September 30, 1960, and to continue the series of reports known as Water-Supply Papers 1301-19 and 1372 which summarized all surface-water records through September 30, 1950. The present series of reports includes corrections of errors which have been found in the earlier series. Also included are some records collected prior to October 1, 1950, that were omitted from the 1950 compilation series.

The Geological Survey collected the records mainly in cooperation with State, municipal, and other Federal agencies, and published them in detail in the series of annual reports known as "Surface Water Supply of the United States." Some records furnished by other agencies have been included in the annual reports and in the present series of reports; such records are identified in the station description.

The data presented consist of records of discharge of streams and contents of reservoirs summarized on a monthly and yearly basis. Results of miscellaneous discharge measurements and, in general, stage records have been excluded. Included is a map of the area showing the location of each station (pl. 1). The reports of the present series are generally similar in the type of data they contain and in the form of presentation; moreover, they conform in style with the earlier series of compilation reports so that the entire record for any station up to September 30, 1960, is available in one or two volumes.

All records compiled for these summary reports were examined for major errors. A few revisions were made and the revised figures, noted as such, are included. Some previously unpublished information is included, as well as a few estimates of discharge that were made to fill short gaps in an otherwise complete period of record.

DESCRIPTION OF DATA

The gaging-station records are arranged in downstream order. The order used in this report is the same as that adopted for use in the annual series of reports on surface-water supply beginning with the water year 1951. In a downstream direction along the main stem, all stations on a tributary entering above a main-stem station are listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed in 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 indention in the listing of gaging stations in the table of contents represents one rank. This downstream order and system of indention show 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 station was assigned a number which is shown on the index map and which is a part of the station name in the heading of the description in the text. The numbers are assigned in downstream order in each part (see explanation of "parts" under the heading "Publications," p. 4) beginning with the most upstream station. The numbers are not consecutive because gaps are left to allow for new stations that may be established.

The data presented for most of the gaging stations comprise a description of the station, a table of monthly discharge in cubic feet per second, a table of monthly runoff in inches, and a yearly summary table. The station description gives the name of the river basin, the station number and name, the location, drainage area, records available, types and datums of gages, average discharge, extremes of discharge, general remarks concerning the data, and a credit statement if records were furnished by another agency.

The location of the gaging station and the drainage area are obtained from the best available maps. When more than one site was used during water years 1951-60 and the difference in drainage areas is significant, the area for the latest site is shown first followed by the areas for other sites in chronological order. In some instances drainage-area figures have not been obtained because of the lack of suitable maps or because the boundaries cannot be defined or the effective drainage area determined.

The paragraph "Records available" lists all periods for which there are published records generally equivalent to those at the present site. If equivalent records have been published under another station name, that fact is also noted.

The gage described first is the present gage or the one used most recently. Information is then given in chronological order for all gages used earlier, giving changes in location, type of gage, or datum. The location or datum of all earlier gages is given with reference to the present or most recently used gage. The datum of the gage is the elevation of the zero of the gage above mean sea level. Where information as to datum is not available, the altitude of the gage is given.

The average discharge for a station is the average of all complete water years and is published only if there are five or more complete water years of record. The years used to determine the average are not necessarily consecutive. The average discharge is not published for some stations because of extensive changes in diversion or storage, or other water development, that have occurred upstream.

In general, the momentary maximum and minimum discharges and stages for the entire period of record are published in the "Extremes" paragraph. These are qualified if necessary according to the type of gage used and the completeness of the record. Maximum and minimum discharges at nonrecording gaging stations are qualified as "observed" unless determined from a graph drawn through actual gage heights which approximates the actual hydrograph.

Under "Remarks" information is given on factors which affect the basin runoff characteristics. These include upstream regulation, diversion, and utilization--a history of changes in these items during the period 1951-60 is given when known. Also, references

are made to the records of storage or diversion upstream and to records concerning quality of water, if published.

When discharge records are furnished by another agency, credit is given under "Cooperation."

The streamflow data summarized in this report generally are contained in two monthly tables and one yearly table. The first monthly table is a tabulation of monthly and yearly mean discharges in cubic feet per second. These figures represent discharge passing the station; they are unadjusted for storage or diversion upstream unless otherwise specified under "Remarks" for the individual station. Each monthly figure is the mean flow for the entire month; generally no record for part of a month is tabulated. Likewise, each yearly figure is the mean flow for a full year, and no figure is shown for a partial year. Usually the months are arranged on a water-year basis. Exceptions to this rule are made in connection with seasonal records wherein the months are grouped to give a complete season for each calendar year.

The second monthly table is a tabulation of monthly and yearly runoff in inches. For streams that are subject to considerable regulation, the second table contains the adjusted runoff in inches. The table of runoff in inches is omitted if the data do not represent natural yield without gross error, whether adjusted or unadjusted.

The third table contains a yearly summary of the streamflow data. The column headed "WSP" lists the number of the water-supply paper in which the figures of daily and monthly discharge are published. If a part of the record has been revised and the revision published, then reference is made to both the original report and the one containing the revised record; if the daily discharge record for the entire year has been republished to include the revisions, then only the later report is listed. However, there is no reference in this column for revisions published for the first time in this report as the corresponding revised figures of daily discharge will be published in a water-supply paper which will contain daily records for the period 1961-65. For some stations the third table is omitted; however, the report containing records for any particular year can generally be found by referring to the table given on page 6.

In the third table the momentary maximum discharge for each water year and the date of its occurrence is given if known. For nonrecording gage records, momentary maximums were obtained from graphs drawn through the gage readings. The momentary maximum discharge, however obtained, is not qualified in any way if it is believed to be representative of the absolute maximum for the water year.

The minimum daily discharge for each water year is listed if known. Other data listed in this table are the annual mean discharge and runoff for both the water year and the calendar year. The figures listed for the water year are the same as those given in the yearly columns of the preceding tables. In addition, the annual mean discharge per square mile is listed for the water year. If figures of runoff have been adjusted for regulation or diversion in the preceding table, adjusted figures are listed in the yearly summary table. For a few stations regulation affects monthly figures seriously, but the effect on annual figures is either negligible or can be adequately adjusted for; for these stations the monthly table of runoff in inches is omitted, but the annual runoff is given.

Most canal and diversion records are given in a single table. There are some records for large canals, however, that are published in the same detail as those for streams. Records of reservoirs also are given in a single table which shows the contents at the end of each month.

Revised figures of discharge for water years 1951-60 are not so indicated if they have been published in an annual report, but are noted as "revised" if they have not been published in an annual report. Revised daily figures which have not been published in annual reports will be published in the water-supply paper containing records for water years 1961-65, except for special cases involving only a few figures which are included in this series of reports. Figures that represent corrections of typographical or computational errors whereas no figures of daily discharge have been revised or changed are indicated as "corrected" in this report, except corrected figures of runoff in inches which are not noted if the correction is due solely to a revision of drainage area. Estimates of discharge made to complete months or years for this report are noted as estimates and as "not previously published."

Revisions or corrections of records published in WSP 1305 are included in this report. However, revised figures of runoff in inches or discharge per square mile for records prior to October 1, 1950, resulting solely from a revision of drainage area, are not given. For stations published during at least part of the period 1951-60, the revisions or corrections are published with the other data for the station; for stations not operated since the end of the 1950 water year, the revisions or corrections are published in a special section at the conclusion of the report.

PUBLICATIONS

This series of reports comprises 20 volumes of water-supply papers (WSP) as numbered below. The "Part" numbers and the areas covered are the same as those used for the annual series of reports on surface-water supply of the United States since 1951. The boundaries of the parts are indicated on figure 1.

Numbers of water-supply papers for 1960 series of compilation reports

WSP	Part	Area
1721	1-A	North Atlantic slope basins, Maine to Connecticut.
1722	1-B	North Atlantic slope basins, New York to York River.
1723	2-A	South Atlantic slope basins, James River to Savannah River.
1724	2-B	South Atlantic slope and eastern Gulf of Mexico basins, Ogeechee River to Pearl River.
1725	3-A	Ohio River basin except Cumberland and Tennessee River basins.
1726	3-B	Cumberland and Tennessee River basins.
1727	4	St. Lawrence River basin.
1728	5	Hudson Bay and upper Mississippi River basins.
1729	6-A	Missouri River basin above Sioux City, Iowa.
1730	6-B	Missouri River basin below Sioux City, Iowa.
1731	7	Lower Mississippi River basin.
1732	8	Western Gulf of Mexico basins.
1733	9	Colorado River basin.
1734	10	The Great Basin.
1735	11	Pacific slope basins in California.
1736	12	Pacific slope basins in Washington and upper Columbia River basin.
1737	13	Snake River basin.
1738	14	Pacific slope basins in Oregon and lower Columbia River basin.
1739	-	Hawaii.
1740	-	Alaska.

Records prior to September 30, 1950, were summarized in a series of water-supply papers as listed below. Each of these volumes contains a list of the annual reports from which data prior to 1951 were summarized.

Number of water-supply papers for 1950 series of compilation reports

WSP	Part	WSP	Part	WSP	Part
1301	1-A	1308	5	1315-A	11-B
1302	1-B	1309	6-A	1315-B	11-A
1303	2-A	1310	6-B	1316	12
1304	2-B	1311	7	1317	13
1305	3-A	1312	8	1318	14
1306	3-B	1313	9	1319	Hawaii
1307	4	1314	10	1372	Alaska

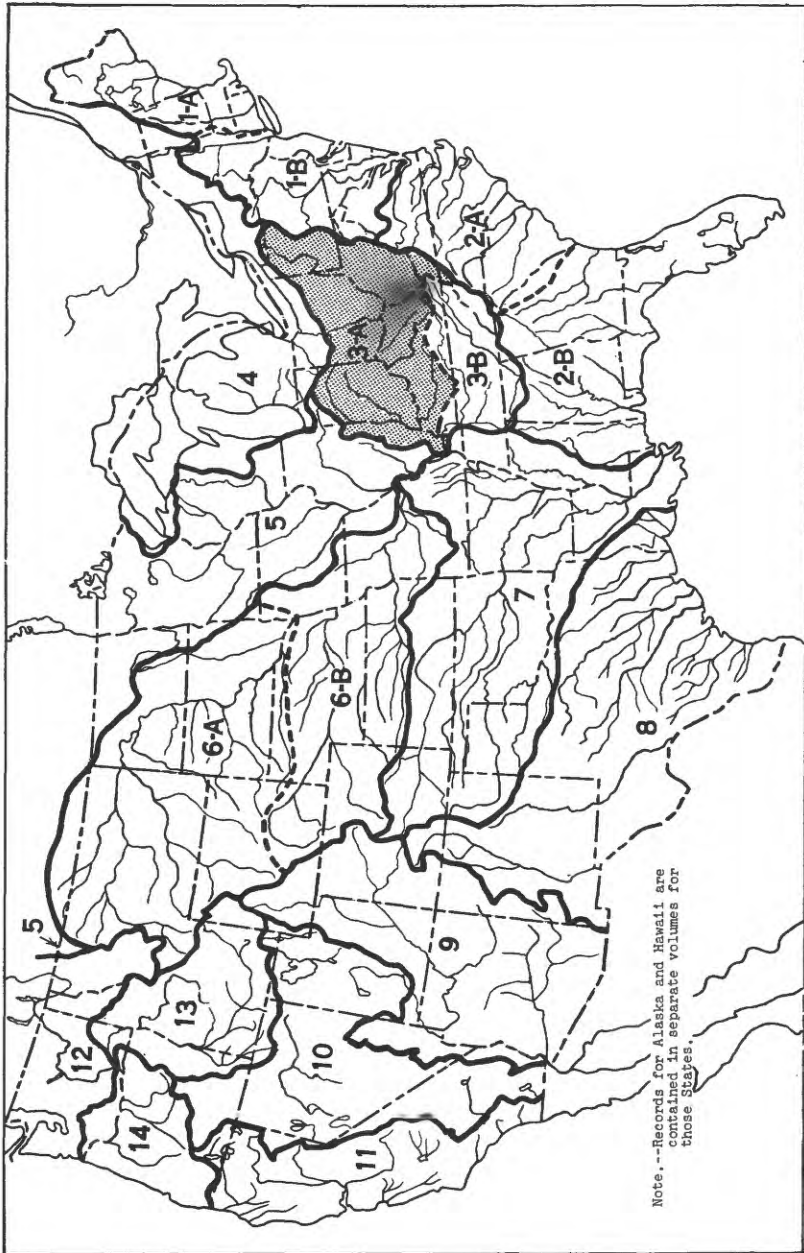


Figure 1.--Map of the conterminous United States showing areas covered by 18 of the 20 volumes on surface water supply. The area covered by this report is shaded.

This report is summarized from the following 10 annual reports which contain records of daily discharge for each of the water years from 1951 to 1960.

Annual water-supply papers, Part 3-A, 1951-60

Water year	WSP	Water year	WSP
1951	1205	1956	1435
1952	1235	1957	1505
1953	1275	1958	1555
1954	1335	1959	1625
1955	1385	1960	1705

In addition to the customary records of discharge collected during the systematic operation of gaging stations there is much additional hydrologic information available, both published and unpublished.

A list of flood reports and other special reports is contained in the introductory pages of each of the annual reports listed above.

Records for many stations have been analyzed by an electronic computer to give: the number of days in each year that the discharge was between selected limits (duration tables); the lowest and highest mean discharges for selected numbers of consecutive days in each year; and other statistical summaries.

Data on low flow or peak flows or both are available for many sites other than gaging stations.

Specific information on unpublished data available can be obtained by writing directly to the district engineer for the State in which the site or gaging station is located.

HYDROLOGIC CONDITIONS

Streamflow, a residual of precipitation after other demands have been met, varies considerably from year to year and from place to place. Figure 2 shows yearly discharge for three gaging stations in Ohio River basin except Cumberland and Tennessee River basins. The pattern of yearly runoff shown by these streams is generally representative of hydrologic conditions in their parts of the report area.

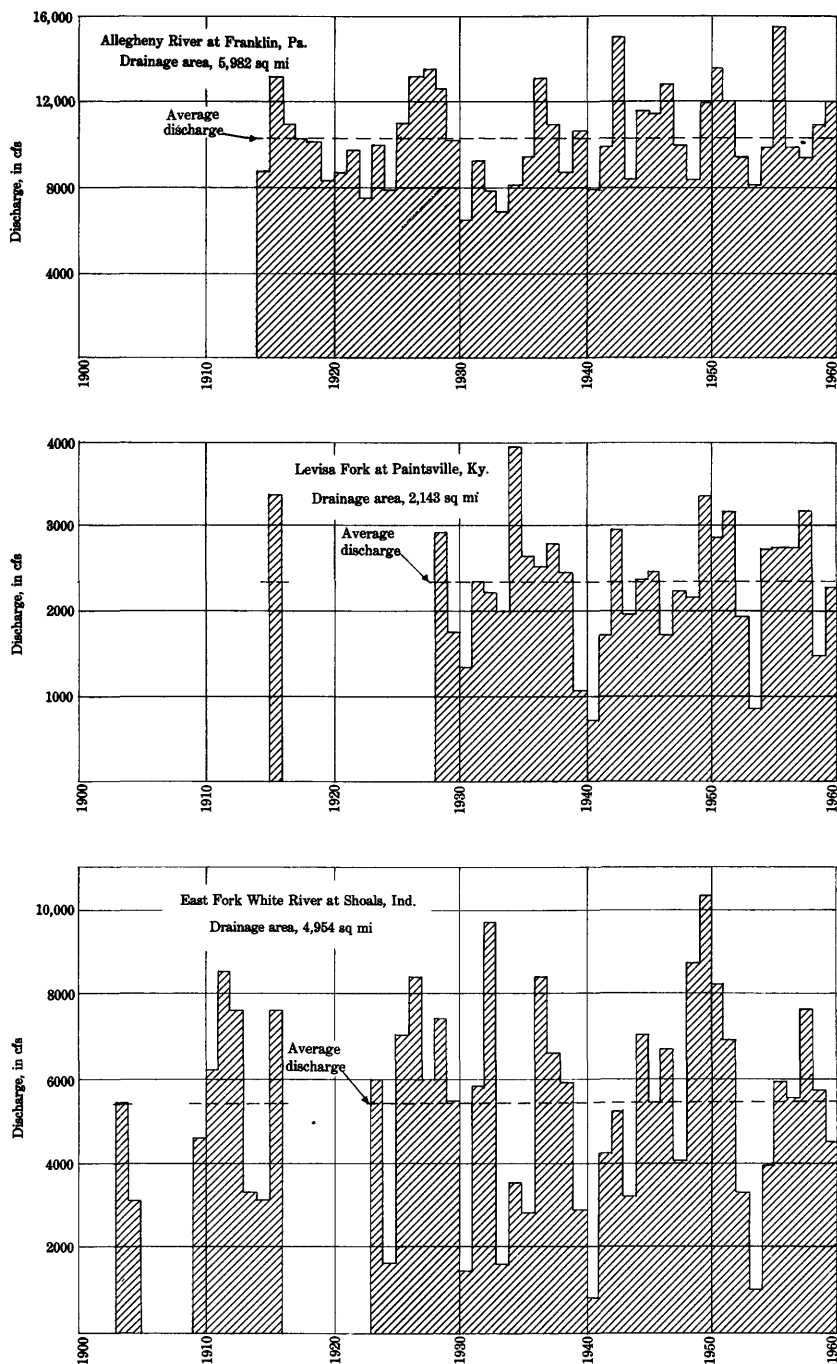


Figure 2.—Yearly discharge at three representative gaging stations.

GAGING-STATION RECORDS

OHIO RIVER MAIN STEM

105. Allegheny River at Eldred, Pa.

Location.--Lat 41°57'50", long 78°23'10", on right bank at site of former highway bridge, 600 ft upstream from bridge on State Highway 346, 1,000 ft upstream from Knapp Creek, and half a mile north of Eldred, McKean County.

Drainage area.--550 sq mi.

Records available.--July 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,416.20 ft above mean sea level, unadjusted.

Average discharge.--21 years (1939-60), 967 cfs.

Extremes.--1939-60: Maximum discharge, 55,000 cfs July 19, 1942 (gage height, 27.6 ft, from floodmark), from rating curve extended above 15,000 cfs on basis of slope-area measurement of peak flow; minimum, 22 cfs Sept. 29, 30, 1959 (gage height, 1.27 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	608	5,175	1,629	1,746	1,890	2,082	2,322	547	569	923	90.6	75.6	1,298
1952	54.7	402	1,369	3,359	1,484	2,246	2,236	1,514	316	85.7	76.9	82.2	1,104
1953	85.7	347	911	939	1,058	2,049	1,453	1,927	1,342	113	190.	150	878
1954	74.0	285	797	789	1,247	1,740	1,948	1,228	512	98.5	56.0	51.9	730
1955	274	289	921	1,101	634	3,209	844	276	140	58.0	187	56.9	677
1956	1,173	1,293	804	303	843	3,545	2,764	1,842	841	480	786	715	1,284
1957	286	467	1,668	1,156	891	1,353	2,674	886	280	126	43.4	46.3	822
1958	49.5	94.6	860	460	309	1,110	3,110	1,624	508	724	363	500	812
1959	360	605	496	2,480	1,774	1,833	2,168	804	198	125	57.7	34.6	906
1960	286	1,252	1,696	1,275	1,131	813	2,306	1,494	1,196	172	105	53.1	978

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.28	6.44	3.42	3.66	3.58	4.36	4.71	1.15	1.15	1.94	0.19	0.15	32.03
1952	.11	.82	2.87	7.04	2.91	4.71	4.54	3.17	.64	.18	.16	.17	27.32
1953	.18	.70	1.91	1.97	1.96	4.30	2.95	4.04	2.72	.24	.40	.30	21.67
1954	.16	.54	1.67	1.65	2.36	3.65	3.95	2.57	1.04	.21	.12	.11	18.03
1955	.57	.55	1.93	2.31	1.20	6.73	1.71	.79	.29	.12	.39	.12	16.71
1956	2.46	2.62	1.69	.64	1.65	7.43	5.61	3.86	1.71	1.01	1.65	1.45	31.78
1957	.60	.95	3.50	2.42	1.69	2.84	5.42	1.86	.57	.26	.09	.09	20.29
1958	.10	.19	1.80	.96	.58	2.33	6.31	3.41	1.03	1.52	.80	1.01	20.04
1959	.75	1.23	1.04	5.20	3.36	3.84	4.40	1.69	.40	.26	.12	.07	22.36
1960	.60	2.54	3.56	2.67	2.22	1.70	4.68	3.13	2.43	.36	.22	.11	24.22

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,268	31.30
1951	1205	19,700	Nov. 26, 1950	41	1,298	2.36	32.03	1,001	24.69
1952	1235	8,930	Jan. 19, 1952	28	1,104	2.01	27.32	1,063	26.31
1953	1275	6,350	Mar. 26, 1953	45	878	1.60	21.67	861	21.25
1954	1335	6,590	Mar. 3, 1954	29	730	1.33	18.03	758	18.71
1955	1385	7,620	Mar. 6, 1955	31	677	1.23	16.71	827	20.43
1956	1435	19,700	Mar. 9, 1956	44	1,284	2.33	31.78	1,214	30.06
1957	1505	5,180	Jan. 24, 1957	24	822	1.49	20.29	703	17.33
1958	1555	8,180	Apr. 8, 1958	32	812	1.48	20.04	850	20.97
1959	1625	16,500	Jan. 23, 1959	22	906	1.65	22.36	1,055	26.04
1960	1705	9,540	Mar. 31, 1960	36	978	1.78	24.22	-	-

108. Olean Creek near Olean, N. Y.

Location.--Lat 42°07'16", long 78°25'15", on left bank at highway bridge, 1,000 ft west of State Highway 16, 1.4 miles northeast of Olean, Cattaraugus County, and 4.6 miles upstream from mouth.

Drainage area.--198 sq mi.

Records available.--October 1957 to September 1960 (no winter records).

Gage.--Water-stage recorder. Altitude of gage is 1,430 ft (from topographic map).

Extremes.--1957-60: Maximum discharge, 7,390 cfs Mar. 31, 1960 (gage height, 12.67 ft); minimum, 1.1 cfs Oct. 23, 1957 (gage height, 0.96 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	3.07	81.3	-	-	-	-	1,067	317	290	92.5	34.9	111	-
1959	98.1	312	-	-	-	-	774	221	76.8	61.1	28.6	26.1	-
1960	414	-	-	-	-	-	690	243	414	50.7	72.0	38.4	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0.02	0.46	-	-	-	-	6.01	1.85	1.64	0.54	0.20	0.63	-
1959	.56	1.76	-	-	-	-	4.36	1.28	.43	.36	.17	.15	-
1960	2.41	-	-	-	-	-	3.89	1.42	2.33	.30	.42	.22	-

GREAT VALLEY CREEK BASIN

110. Great Valley Creek near Salamanca, N. Y.

Location.--Lat 42°10'40", long 78°41'40", on left bank 0.3 mile upstream from highway bridge, 1 mile downstream from Hungry Hollow, $1\frac{1}{2}$ miles northeast of Salamanca, Cattaraugus County, and 2 miles upstream from mouth.

Drainage area.--142 sq mi.

Records available.--December 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,393.42 ft above mean sea level, datum of 1929.

Average discharge.--9 years (1951-60), 232 cfs.

Extremes.--1950-60: Maximum discharge, 9,680 cfs Mar. 7, 1956 (gage height, 10.66 ft); no flow for several days in 1952-59.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	565	476	598	439	128	150	35.4	1.95	6.22	-
1952	9.09	305	370	707	316	580	360	298	60.7	3.14	.05	.11	251
1953	.77	153	266	272	307	557	272	346	115	5.17	10.8	9.12	192
1954	.23	48.7	234	312	446	448	613	204	53.6	4.50	.50	7.13	196
1955	119	130	327	245	247	815	254	48.8	9.10	.72	4.38	.04	184
1956	295	391	330	62.3	277	690	771	470	169	221	119	305	356
1957	52.8	117	455	379	261	299	555	200	61.1	60.2	1.72	.01	203
1958	0	38.8	290	76.3	82.2	310	841	246	211	85.6	13.0	99.3	191
1959	56.9	265	158	590	407	531	600	165	34.7	17.1	6.32	2.96	235
1960	337	453	527	403	350	371	509	161	179	14.1	50.2	2.00	279

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	4.59	3.49	4.65	3.45	1.04	1.18	0.29	0.02	0.05	-
1952	0.07	2.39	3.00	5.74	2.40	4.71	2.83	2.42	.48	.03	.00	.00	24.07
1953	.01	1.20	2.16	2.21	2.25	4.52	2.14	2.81	.90	.04	.09	.07	18.40
1954	.002	.38	1.90	2.54	3.27	3.64	4.82	1.66	.42	.04	.004	.06	18.74
1955	.97	1.02	2.66	1.99	1.81	6.62	1.99	.40	.07	.006	.04	.0003	17.56
1956	2.40	3.07	2.68	.51	2.10	7.22	6.06	3.82	1.33	1.79	.97	2.40	34.35
1957	.43	.92	3.70	3.07	1.91	2.42	4.36	1.65	.48	.49	.01	.0001	19.42
1958	.00	.30	2.35	.62	.60	2.52	6.61	1.99	1.66	.70	.11	.78	16.24
1959	.46	2.08	1.29	4.79	2.99	4.31	4.71	1.34	.27	.14	.05	.02	22.45
1960	2.73	3.56	4.27	3.27	2.66	3.01	4.00	1.30	1.41	.11	.41	.02	26.75

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	4,650	Jan. 4, 1951	-	-	-	-	255	24.42
1952	1235	4,670	Jan. 18, 1952	0	251	1.77	24.07	229	21.98
1953	1275	3,220	Mar. 24, 1953	0	192	1.35	18.40	181	17.31
1954	1335	3,720	Feb. 17, 1954	0	196	1.38	18.74	221	21.10
1955	1385	6,100	Mar. 1, 1955	0	184	1.30	17.58	220	21.07
1956	1435	9,680	Mar. 7, 1956	0	358	2.52	34.35	326	31.25
1957	1505	6,390	Jan. 22, 1957	0	203	1.41	19.42	178	17.02
1958	1555	4,810	June 13, 1958	0	191	1.35	18.24	203	19.42
1959	1625	9,470	Jan. 22, 1959	0	235	1.65	22.45	305	29.18
1960	1705	5,810	Mar. 30, 1960	.5	279	1.96	26.75	-	-

115. Allegheny River at Red House, N. Y.

Location.--Lat 42°06'50", long 78°48'15", on left bank at site of former highway bridge at Red House, Cattaraugus County, 0.7 mile upstream from Meetinghouse Run and at mile 227.7.

Drainage area.--1,690 sq mi.

Records available.--September 1903 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,327.68 ft above mean sea level, datum of 1929. Prior to Sept. 3, 1917, chain gage at same site and datum.

Average discharge.--57 years (1903-60), 2,800 cfs.

Extremes.--1903-60: Maximum discharge, 49,100 cfs Mar. 8, 1956 (gage height, 15.11 ft); minimum daily, 80 cfs Dec. 15-17, 1908.

Remarks.--Records of chemical analyses and water temperatures for the period October 1953 to September 1956, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,381	7,836	5,044	5,663	5,569	6,274	6,275	1,529	1,576	1,859	266	272	3,609
1952	202	2,038	3,862	9,852	4,195	6,866	5,685	3,953	991	287	257	301	3,213
1953	278	1,253	2,956	3,005	3,566	6,519	3,973	5,028	3,111	341	412	402	2,551
1954	211	753	2,277	2,495	4,162	4,884	6,365	3,556	1,412	307	226	210	2,206
1955	901	1,008	2,910	3,285	2,163	9,695	2,666	1,154	394	227	579	211	2,110
1956	3,741	4,667	3,053	910	2,679	10,810	8,702	5,712	2,390	1,882	2,195	2,630	4,116
1957	820	1,474	5,026	3,874	2,826	3,913	9,437	3,062	902	614	195	175	2,591
1958	175	396	2,569	1,091	812	3,602	9,429	4,375	2,346	1,830	776	1,226	2,388
1959	947	2,291	1,644	6,476	5,093	5,843	6,762	2,647	759	511	235	176	2,766
1960	1,862	4,436	5,685	4,483	3,734	2,679	7,240	3,722	3,788	564	440	209	3,227

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.94	5.17	3.44	3.86	3.43	4.28	4.14	1.04	1.04	1.27	0.18	0.18	28.97
1952	.14	1.35	2.64	6.72	2.68	4.69	3.75	2.70	.65	.20	.18	.20	25.90
1953	.19	.83	2.02	2.05	2.07	4.45	2.62	3.43	2.05	.23	.28	.27	20.49
1954	.14	.50	1.55	1.70	2.57	3.33	4.20	2.29	.93	.21	.15	.14	17.71
1955	.61	.67	1.99	2.24	1.33	6.62	1.76	.79	.26	.16	.40	.14	16.97
1956	2.55	3.08	2.08	.62	1.71	7.37	5.75	3.90	1.58	1.28	1.50	1.74	33.16
1957	.56	.97	3.43	2.64	1.62	2.67	5.57	2.09	.60	.42	.13	.12	20.82
1958	.12	.26	1.75	.74	.50	2.46	6.23	2.98	1.55	1.25	.53	.81	19.18
1959	.65	1.51	1.12	4.42	3.14	3.99	4.46	1.81	.50	.35	.16	.12	22.25
1960	1.27	2.93	3.88	3.06	2.38	1.83	4.78	2.54	2.50	.38	.30	.14	25.99

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	3,664	29.42
1951	1205	32,200	Nov. 26, 1950	178	3,609	2.14	28.97	2,932	23.55
1952	1235	23,300	Mar. 12, 1952	126	3,213	1.90	25.90	3,078	24.81
1953	1275	19,200	May 31, 1953	169	2,551	1.51	20.49	2,447	19.64
1954	1335	16,600	Mar. 2, 1954	144	2,206	1.31	17.71	2,339	18.79
1955	1385	25,200	Mar. 2, 1955	138	2,110	1.25	16.97	2,664	21.41
1956	1435	49,100	Mar. 8, 1956	164	4,116	2.44	33.16	3,774	30.41
1957	1505	25,600	Jan. 24, 1957	129	2,591	1.53	20.82	2,239	17.99
1958	1555	22,400	Apr. 7, 1958	129	2,388	1.41	19.18	2,531	20.33
1959	1625	35,000	Jan. 22, 1959	130	2,766	1.64	22.23	3,363	27.03
1960	1705	28,800	Apr. 1, 1960	174	3,227	1.91	25.99	-	-

125. Allegheny River near Kinzua, Pa.

Location.--Lat 41°50'50", long 78°59'30", on left bank at Pennsylvania Railroad bridge, half a mile upstream from Bent Run, 2 miles southwest of Kinzua, Warren County, and 2.3 miles downstream from Kinzua Creek.

Drainage area.--2,179 sq mi.

Records available.--October 1935 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,200.00 ft above mean sea level (Corps of Engineers bench mark).

Average discharge.--25 years (1935-60), 3,849 cfs.

Extremes.--1935-60: Maximum discharge, 60,500 cfs Mar. 8, 1956 (gage height, 19.95 ft); minimum, 149 cfs Sept. 15, 1936; minimum gage height, 4.30 ft Sept. 29, 1959.

Remarks.--Records of chemical analyses and water temperatures $\frac{9}{10}$ miles downstream at Warren, Pa., for the period October 1948 to September 1951 and records of chemical analyses at station for the period October 1956 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,779	9,634	6,851	7,832	7,608	8,716	8,370	2,259	2,708	2,550	405	415	4,901
1952	315	2,857	5,265	12,710	5,771	8,787	7,117	5,413	1,338	393	360	455	4,238
1953	355	1,658	3,896	3,954	4,514	8,171	5,429	7,104	4,167	512	619	580	3,409
1954	296	886	2,876	3,570	5,436	6,374	8,339	4,346	1,994	435	309	310	2,911
1955	1,540	1,523	4,096	4,557	2,837	12,650	5,925	1,611	641	343	749	275	2,911
1956	4,753	6,114	4,036	1,390	3,744	13,370	11,220	7,568	3,089	2,619	3,728	4,109	5,481
1957	1,139	2,040	6,508	5,582	3,632	5,070	10,920	4,150	1,299	884	296	248	3,478
1958	251	634	3,737	1,758	1,357	4,950	11,720	5,812	3,143	2,599	1,214	1,824	3,253
1959	1,374	3,107	2,374	7,757	7,216	7,721	8,860	3,681	1,099	754	331	256	3,685
1960	2,498	6,051	7,662	6,073	5,020	3,455	9,336	5,281	4,996	762	561	276	4,318

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.94	4.93	3.62	4.14	3.64	4.61	4.29	1.20	1.39	1.35	0.21	0.21	30.55
1952	.17	1.46	2.79	6.73	2.86	4.65	3.64	2.86	.69	.21	.19	.23	26.48
1953	.19	.85	2.08	2.09	2.16	4.32	2.78	3.78	2.13	.27	.33	.30	21.24
1954	.16	.45	1.52	1.89	2.60	3.37	4.27	2.30	1.02	.23	.16	.16	18.13
1955	.82	.78	2.17	2.41	1.36	6.69	2.01	.85	.33	.18	.40	.14	18.14
1956	2.51	3.13	2.14	.74	1.85	7.08	5.74	4.00	1.58	1.39	1.97	2.10	34.23
1957	.60	1.04	3.44	2.95	1.74	2.68	5.59	2.20	.67	.47	.16	.13	21.67
1958	.13	.32	1.98	.93	.65	2.62	6.00	3.08	1.61	1.37	.64	.93	20.26
1959	.73	1.59	1.26	4.10	5.45	4.09	4.54	1.95	.56	.40	.17	.12	22.96
1960	1.32	3.10	4.05	3.21	2.46	1.83	4.78	2.79	2.56	.40	.30	.14	26.96

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	4,891	30.45
1951	1205	37,600	Nov. 26, 1950	257	4,901	2.25	30.53	4,085	25.46
1952	1235	31,000	Jan. 18, 1952	180	4,238	1.94	26.48	4,027	25.16
1953	1275	23,600	May 31, 1953	245	3,409	1.56	21.24	3,254	20.27
1954	1335	19,200	Mar. 2, 1954	231	2,911	1.34	18.13	5,173	19.77
1955	1385	30,500	Mar. 2, 1955	192	2,911	1.34	18.14	3,556	22.15
1956	1435	60,500	Mar. 8, 1956	234	5,481	2.52	34.23	5,050	31.53
1957	1505	32,000	Jan. 23, 1957	200	3,478	1.60	21.67	3,052	19.02
1958	1555	29,000	Apr. 7, 1958	190	3,253	1.49	20.26	3,436	21.41
1959	1625	50,600	Jan. 22, 1959	168	3,685	1.69	22.96	4,471	27.85
1960	1705	36,500	Mar. 31, 1960	215	4,318	1.98	26.96	-	-

130. Conewango Creek at Waterboro, N. Y.

Location.--Lat 42°10'15", long 79°04'10", on right bank 300 ft downstream from concrete viaduct at Waterboro, Chautauqua County, 900 ft downstream from Davis Brook, and 2½ miles upstream from Kennedy.

Drainage area.--290 sq mi.

Records available.--September 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,255.30 ft above mean sea level (Corps of Engineers bench mark). Prior to Nov. 7, 1939, staff gages at site 1,300 ft upstream at various datums. Nov. 7, 1939, to Nov. 4, 1940, staff gage at site 1,100 ft upstream at datum 0.79 ft higher, and Nov. 5, 1940, to May 28, 1948, staff gage at site 700 ft downstream at present datum.

Average discharge.--22 years (1938-60), 514 cfs.

Extremes.--1938-60: Maximum discharge, 8,600 cfs Apr. 7, 1947; maximum gage height, 11.58 ft Mar. 8, 1956; minimum discharge observed, 22 cfs Aug. 18, 1940, Sept. 27, 29, 1941.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	270	942	1,075	1,125	1,133	1,048	848	255	129	99.9	46.6	47.9	581
1952	49.5	525	647	1,536	814	1,168	536	600	145	58.0	50.9	68.6	517
1953	63.4	187	508	598	620	949	554	767	398	78.9	69.1	52.6	403
1954	36.9	85.6	365	614	930	1,028	1,249	389	176	58.8	45.1	54.4	415
1955	551	516	758	794	647	1,505	594	172	87.6	43.1	52.4	34.8	480
1956	353	802	701	207	855	1,831	1,238	959	211	308	315	434	684
1957	156	209	1,145	966	622	687	1,204	384	200	245	48.7	48.3	493
1958	47.0	121	672	241	228	1,072	1,234	514	646	423	98.5	641	495
1959	210	552	489	1,331	1,076	1,292	1,150	310	121	65.8	44.9	39.5	554
1960	316	758	1,092	1,025	903	551	1,386	421	172	69.7	77.0	37.0	565

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.07	3.62	4.28	4.47	4.07	4.16	3.26	1.02	0.50	0.40	0.19	0.18	27.22
1952	.20	2.02	2.57	6.11	3.03	4.84	2.06	2.38	.56	.23	.20	.26	24.26
1953	.25	.72	2.02	2.38	2.23	3.77	2.13	3.05	1.53	.31	.27	.20	18.86
1954	.15	.33	1.45	2.44	3.34	4.09	4.81	1.55	.68	.23	.18	.21	19.46
1955	2.19	1.99	3.01	3.16	2.32	5.98	2.28	.68	.34	.17	.21	.13	22.46
1956	1.40	3.09	2.79	.82	3.16	7.28	4.76	3.81	.81	1.23	1.25	1.67	32.09
1957	.62	.80	4.55	3.84	2.23	2.73	4.63	1.53	.77	.97	.19	.19	23.05
1958	.19	.47	2.67	.96	.82	4.26	4.75	2.04	2.49	1.68	.39	2.47	23.19
1959	.84	2.12	1.94	5.29	3.86	5.13	4.43	1.23	.47	.26	.18	.15	25.90
1960	1.26	2.91	4.34	4.07	3.36	2.19	5.33	1.67	.66	.28	.31	.14	26.52

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	632	29.55	
1951	1205	4,500	Dec. 5, 1950	37	581	2.00	27.22	492	23.04	
1952	1255	3,500	Mar. 13, 1952	26	517	1.78	24.26	479	22.46	
1953	1275	2,310	June 1, 1953	33	403	1.39	18.86	361	17.80	
1954	1335	3,000	Feb. 18, 1954	31	415	1.43	19.46	528	24.72	
1955	1385	3,420	Mar. 3, 1955	29	480	1.66	22.46	482	22.55	
1956	1435	6,750	Mar. 8, 1956	34	684	2.36	32.09	656	30.78	
1957	1505	4,520	Jan. 24, 1957	37	493	1.70	23.05	436	20.41	
1958	1555	2,390	Apr. 8, 1958	40	495	1.71	23.19	529	24.76	
1959	1625	5,800	Jan. 23, 1959	30	554	1.91	25.90	651	29.51	
1960	1705	5,490	Apr. 1, 1960	32	565	1.95	26.52	-	-	

145. Chadakoin River at Falconer, N. Y.

Location.--Lat 42°06'45", long 79°12'15", on left bank 10 ft downstream from South Dow Street Bridge in Falconer, Chautauqua County, $1\frac{1}{2}$ miles upstream from mouth, and 6 miles downstream from Chautauqua Lake.

Drainage area.--194 sq mi.

Records available.--October 1934 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,256.41 ft above mean sea level, datum of 1929.

Average discharge.--25 years (1935-60), 340 cfs (adjusted).

Extremes.--1934-60: Maximum discharge, 2,050 cfs Apr. 5, 1947 (gage height, 4.56 ft); minimum, 5.0 cfs July 1, 1954 (gage height, 0.285 ft); minimum daily, 5.9 cfs Aug. 5, 7, 21, 22, 1954.

Remarks.--Flow regulated by Chautauqua Lake. Diurnal fluctuation caused by mills above station.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	304	471	997	776	603	816	501	150	56.4	162	39.3	20.0	408
1952	126	229	512	803	803	650	219	472	53.4	15.4	15.2	74.9	330
1953	170	94.0	250	310	467	510	445	375	308	18.7	34.5	72.2	251
1954	192	77.0	127	247	570	651	756	361	15.1	8.55	7.44	34.1	254
1955	350	431	453	663	326	834	316	148	87.9	25.8	35.0	22.2	309
1956	291	441	495	304	326	1,152	872	612	200	227	86.9	260	439
1957	85.0	283	587	592	487	357	861	272	111	119	29.0	68.0	319
1958	64.9	72.3	355	334	312	460	443	357	352	222	136	276	282
1959	196	396	436	529	956	794	770	153	105	64.2	21.1	44.3	368
1960	249	436	737	767	628	344	815	267	173	102	40.8	30.1	381

Monthly and yearly runoff, in inches (adjusted)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.17	4.62	4.46	4.61	4.13	4.68	3.19	0.75	0.47	0.61	-0.26	-0.08	28.35
1952	.09	2.16	3.28	5.42	2.92	4.60	1.87	2.60	.15	-.27	.05	.15	23.02
1953	-.06	.67	1.95	2.46	2.25	4.35	2.28	3.08	.57	-.06	-.01	.21	17.69
1954	-.27	.33	1.49	2.94	2.85	4.49	4.91	1.14	.38	-.26	-.21	-.01	17.78
1955	1.92	2.18	3.96	2.43	2.93	4.91	2.54	.53	.32	-.21	.12	-.13	21.50
1956	1.56	2.79	2.72	1.04	3.56	7.08	4.81	3.57	.77	1.21	1.29	.74	31.14
1957	.45	1.12	4.25	3.89	2.48	2.24	5.30	1.02	1.26	.17	-.29	.09	21.96
1958	-.05	.71	3.06	1.13	1.53	3.64	3.27	1.53	2.13	1.49	.23	1.84	20.51
1959	.68	2.69	1.86	5.41	3.88	5.51	3.68	1.10	.41	1.10	-.07	-.06	25.09
1960	1.64	3.00	4.56	3.86	3.34	3.23	4.16	2.15	.84	-.12	-.21	-.24	26.21

Note.--Figures are adjusted for change in contents in Chautauqua Lake; negative figures indicate that Natural losses from Chautauqua Lake exceeded inflow.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year					
		Observed			Adjusted a/			Observed			Adjusted a/		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean
		Discharge	Date										
1950	-	-	-	-	-	-	-	-	-	-	-	484	480
1951	1205	1,500	Dec. 4, 1950	10	408	405	2.09	28.35	332	338	23.63	286	20.05
1952	1235	1,160	Feb. 4, 1952	7.6	330	328	1.69	23.02	299	266	16.68	243	24.29
1953	1275	962	June 4, 1953	14	251	253	1.30	17.78	324	347	20.51	293	20.51
1954	1335	1,130	Apr. 16, 1954	5.9	254	254	1.31	21.50	308	293	29.89	417	29.89
1955	1385	1,370	Oct. 15, 1954	8.4	309	307	1.58	31.14	417	426	19.86	281	19.86
1956	1435	1,680	Mar. 8, 1956	9.1	439	444	2.29	21.96	326	313	21.92	401	21.92
1957	1505	1,220	Apr. 12, 1957	14	319	314	1.62	26.21	-	-	-	-	-
1958	1555	1,000	June 13, 1958	10	282	293	1.51	20.51	-	-	-	-	-
1959	1625	1,300	Apr. 2, 1959	6.3	368	358	1.85	25.09	-	-	-	-	-
1960	1705	1,310	Apr. 5, 1960	8.7	381	374	1.93	26.21	-	-	-	-	-

a Adjusted for change in contents in Chautauqua Lake.

150. Conewango Creek at Russell, Pa.

Location.--Lat 41°56'20", long 79°07'55", on left bank at highway bridge in Russell, Warren County, 0.4 mile upstream from Ackley Run and 8.0 miles upstream from mouth.

Drainage area.--816 sq mi.

Records available.--October 1939 to September 1960. Monthly discharge only for October, November 1939, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,222.18 ft above mean sea level, unadjusted. Prior to Apr. 10, 1941, chain gage at same site and datum.

Average discharge.--21 years (1939-60), 1,477 cfs (adjusted for storage).

Extremes.--1939-60: Maximum discharge, 14,400 cfs Apr. 7, 1947 (gage height, 10.69 ft); minimum not determined; minimum daily, 58 cfs Oct. 1, 2, 1941. Flood in March 1936 reached a stage of 10.9 ft, from floodmark (discharge, 14,600 cfs).

Remarks.--Flow regulated by Chautauqua Lake. Some diurnal fluctuation caused by mills above station. Records of chemical analyses and water temperatures for the period October 1951 to September 1952 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	875	2,651	3,584	3,356	3,128	3,274	2,506	745	365	447	133	113	1,757
1952	221	1,354	2,025	4,320	2,675	3,155	1,383	1,844	354	127	113	202	1,480
1953	289	456	1,307	1,601	1,842	2,597	1,826	2,203	1,292	153	154	176	1,155
1954	273	236	823	1,507	2,494	2,950	3,544	1,347	342	116	82.4	119	1,141
1955	1,435	1,555	2,143	2,606	1,733	4,174	1,740	536	306	116	138	91.4	1,383
1956	1,036	2,231	2,147	796	2,211	5,292	3,716	2,753	795	957	931	1,416	2,022
1957	438	737	3,019	2,760	1,823	1,917	3,734	1,113	556	667	132	152	1,419
1958	142	283	1,733	851	798	2,454	2,725	1,561	1,606	1,115	438	1,460	1,265
1959	705	1,644	1,504	3,088	3,724	5,618	5,335	865	366	203	129	140	1,595
1960	941	2,177	3,302	3,030	2,408	1,344	3,835	1,367	711	248	153	92.9	1,629

Monthly and yearly runoff, in inches (adjusted) \pm /

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.08	4.08	4.72	4.74	4.21	4.59	3.50	1.02	0.53	0.55	0.07	0.11	29.20
1952	.16	2.05	2.92	6.26	3.17	4.63	2.01	2.56	.45	.09	.15	.21	24.66
1953	.15	.65	1.98	2.41	2.29	3.98	2.43	3.32	1.48	.18	.16	.19	19.22
1954	.05	.30	1.34	2.48	3.13	4.24	4.98	1.66	.54	.09	.06	.11	18.98
1955	1.99	2.05	3.33	3.32	2.49	5.88	2.55	.67	.37	.08	.17	.06	22.96
1956	1.43	3.11	2.99	.94	3.33	7.53	5.03	3.87	1.00	1.31	1.50	1.76	33.80
1957	.61	.89	4.45	3.99	2.29	2.73	5.19	1.43	.91	.81	.08	.14	23.52
1958	.10	.46	2.67	1.00	.99	3.68	3.89	2.06	2.22	1.61	.48	2.05	21.21
1959	.88	2.32	1.95	4.90	4.46	5.30	4.38	1.27	.45	.22	.14	.12	26.39
1960	1.37	3.09	4.70	4.12	3.15	2.18	5.12	2.06	.93	.18	.11	.03	27.04

a Adjusted for change in contents in Chautauqua Lake.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year			
		Observed				Adjusted a/			Observed		Adjusted a/	
		Momentary		maximum	Minimum	Mean	Fer square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date	day	day							
1950	-	-	-	-	-	-	-	-	-	1,948	1,943	32.37
1951	1205	9,770	Dec. 6, 1950	85	1,757	1,754	2.15	29.20	1,463	1,469	24.45	
1952	1235	6,620	Mar. 13, 1952	74	1,480	1,477	1.81	24.66	1,351	1,337	22.31	
1953	1275	4,570	May 31, 1953	110	1,155	1,156	1.42	19.22	1,094	1,089	18.13	
1954	1335	5,890	Feb. 19, 1954	76	1,141	1,141	1.40	18.98	1,460	1,483	24.66	
1955	1385	7,190	Mar. 4, 5, 1955	63	1,383	1,382	1.69	22.96	1,405	1,390	23.12	
1956	1435	14,100	Mar. 9, 1956	79	2,022	2,027	2.48	33.80	1,923	1,932	32.22	
1957	1505	8,640	Jan. 25, 1957	96	1,419	1,414	1.73	23.52	1,247	1,250	20.80	
1958	1555	4,600	Apr. 2, 1958	104	1,265	1,276	1.56	21.21	1,405	1,392	23.13	
1959	1625	8,290	Jan. 22, 1959	74	1,595	1,586	1.94	26.39	1,812	1,828	30.40	
1960	1705	11,000	Apr. 2, 1960	60	1,629	1,621	1.99	27.04	-	-	-	

a Adjusted for change in contents in Chautauqua Lake.

155. Brokenstraw Creek at Youngsville, Pa.

Location.--Lat 41°51'10", long 79°19'05", on right bank 150 ft downstream from bridge on U.S. Highway 6 at Youngsville, Warren County, 500 ft upstream from Mathews Run, and 3.7 miles upstream from mouth. Records include flow of Mathews Run.

Drainage area.--321 sq mi, including that of Mathews Run.

Records available.--October 1909 to September 1960. Monthly discharge only for some periods, published in WSP 1305. Flow of Mathews Run included in records since October 1938.

Gage.--Water-stage recorder. Datum of gage is 1,187.92 ft above mean sea level, adjustment of 1907. Prior to Jan. 17, 1916, staff gage and Jan. 17, 1916, to Sept. 30, 1933, chain gage, at site 150 ft upstream at datum 1.00 ft higher. Oct. 1, 1933, to June 15, 1939, chain gage at site 150 ft upstream at present datum.

Average discharge.--51 years (1909-60), 576 cfs.

Extremes.--1909-60: Maximum discharge, about 18,000 cfs Mar. 25, 1913 (gage height, 13.2 ft, present datum); minimum observed, 19 cfs Oct. 14, 1934.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	286	1,175	1,221	1,383	1,316	1,299	1,123	319	462	395	87.3	69.1	757
1952	73.7	768	908	2,082	949	1,358	652	863	162	84.8	87.4	64.1	671
1953	65.6	235	603	634	687	1,115	646	1,456	468	96.4	64.2	84.9	513
1954	45.2	80.9	321	667	824	1,165	1,527	515	247	71.9	47.6	41.0	460
1955	549	489	987	756	737	1,558	869	307	240	63.1	67.1	45.6	556
1956	410	783	798	205	959	1,981	1,575	1,138	393	543	994	591	864
1957	228	273	816	949	726	606	1,785	391	458	292	76.3	56.6	552
1958	60.9	230	1,018	302	271	1,045	1,020	702	448	501	489	568	557
1959	280	616	441	1,370	1,334	1,356	1,046	492	279	116	61.2	51.6	616
1960	365	995	1,148	952	904	776	1,170	777	435	169	97.1	46.8	651

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.03	4.08	4.38	4.97	4.27	4.67	3.90	1.15	1.60	1.42	0.31	0.24	32.02
1952	.26	2.67	3.26	7.48	3.19	4.81	2.27	3.10	.56	.30	.31	.22	28.43
1953	.24	.82	2.17	2.28	2.23	4.01	2.24	5.23	1.63	.35	.23	.29	21.72
1954	.16	.28	1.15	2.39	2.67	4.18	5.31	1.85	.86	.26	.17	.14	19.42
1955	1.97	1.70	3.54	2.72	2.39	5.60	3.02	1.10	.83	.23	.24	.16	23.50
1956	1.47	2.72	2.87	.74	3.22	7.12	5.48	4.09	1.37	1.95	3.57	2.05	36.65
1957	.82	.95	2.93	3.41	2.35	2.18	6.20	1.41	1.59	1.05	.27	.20	23.36
1958	.22	.80	3.66	1.08	.88	3.75	3.55	2.52	1.56	1.80	1.76	1.97	23.55
1959	1.00	2.14	1.58	4.92	4.33	4.87	3.64	1.77	.97	.41	.22	.18	26.03
1960	1.31	3.46	4.12	3.42	3.04	2.79	4.07	2.79	1.51	.61	.35	.16	27.63

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	822	34.77
1951	1205	9,140	Jan. 4, 1951	53	757	2.36	32.02	679	28.72
1952	1235	8,100	Jan. 18, 27, 1952	44	671	2.09	28.43	600	25.47
1953	1275	7,700	May 23, 1953	40	513	1.60	21.72	475	20.08
1954	1335	5,380	Feb. 17, 1954	35	460	1.43	19.42	592	25.04
1955	1385	9,140	Oct. 15, 1954	34	556	1.73	23.50	552	23.35
1956	1435	11,700	Mar. 8, 1956	44	864	2.69	36.65	908	34.29
1957	1505	9,140	Jan. 23, 1957	49	552	1.72	23.36	552	23.34
1958	1555	3,740	Dec. 21, 1957	49	557	1.74	23.55	558	23.59
1959	1625	14,600	Jan. 22, 1959	40	616	1.92	26.03	714	30.20
1960	1705	10,500	Mar. 31, 1960	41	651	2.03	27.63	-	-

160. Allegheny River at West Hickory, Pa.

Location.--Lat 41°34'15", long 79°24'30", on right bank at downstream side of bridge on State Highway 127 at West Hickory, Forest County, 0.6 mile upstream from Siggins Run and 0.8 mile downstream from East Hickory Creek.

Drainage area.--3,660 sq mi.

Records available.--October 1941 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,060.15 ft above mean sea level, unadjusted. Prior to Dec. 12, 1941, tape gage at same site and datum.

Average discharge.--19 years (1941-60), 6,691 cfs (adjusted for storage).

Extremes.--1941-60: Maximum discharge, 101,000 cfs Mar. 8, 1956 (gage height, 17.20 ft); maximum gage height, 17.51 ft Feb. 23, 1945 (ice jam); minimum discharge not determined.

Remarks.--Flow regulated by Chautauqua Lake.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,169	14,820	12,930	13,890	13,050	14,650	13,400	3,977	4,436	4,100	726	669	8,262
1952	652	5,581	8,949	21,260	10,120	14,250	9,807	9,219	2,114	655	658	779	7,010
1953	730	2,642	6,589	6,837	7,703	12,650	8,645	12,230	6,870	885	954	905	5,615
1954	643	1,236	4,597	5,985	9,586	11,310	14,700	7,004	5,256	741	490	514	4,935
1955	4,231	5,715	7,971	8,530	5,896	19,600	7,407	3,055	1,436	597	1,102	449	5,351
1956	6,509	10,240	7,395	2,557	7,735	25,920	18,540	13,150	5,032	5,073	6,774	7,642	9,547
1957	1,969	3,297	11,680	9,848	6,552	8,289	18,340	6,395	2,738	2,190	648	520	6,031
1958	523	1,393	7,899	2,965	2,596	8,657	16,410	9,053	5,745	4,733	2,478	4,122	5,557
1959	2,515	5,908	4,421	13,740	13,290	13,620	14,580	5,821	2,212	1,280	580	468	6,489
1960	4,227	10,270	13,590	11,070	9,178	5,608	15,470	8,455	6,786	1,315	923	469	7,276

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.96	4.55	3.99	4.58	3.76	4.60	4.09	1.25	1.36	1.27	0.20	0.19	30.60
1952	.16	1.74	2.84	6.73	2.90	4.53	3.02	2.89	.64	.19	.21	.22	26.07
1953	.17	.81	2.04	2.19	2.18	4.06	2.62	3.92	2.03	.27	.28	.26	20.83
1954	.13	.37	1.43	1.96	2.66	3.59	4.51	2.16	1.01	.22	.14	.15	18.33
1955	1.33	1.12	2.58	2.61	1.74	6.17	2.30	.94	.43	.17	.34	.12	19.85
1956	2.04	3.14	2.32	.76	2.37	7.55	5.83	4.14	1.52	1.59	2.18	2.29	35.53
1957	.62	.98	3.71	3.12	1.85	2.62	5.61	1.98	.87	.66	.18	.14	22.34
1958	.14	.44	2.54	.89	1.73	2.78	5.04	2.82	1.75	1.50	.75	1.27	20.65
1959	.77	1.82	1.35	4.45	3.72	4.33	4.41	1.84	.66	.39	.17	.13	24.04
1960	1.34	3.16	4.29	3.45	2.70	1.89	4.69	2.61	2.06	.38	.27	.12	26.96

a Adjusted for change in contents in Chautauqua Lake.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed					Adjusted a/		Observed	Adjusted a/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	8,526	8,521	31.59
1951	1205	51,900	Dec. 4, 1950	450	8,262	8,259	2.26	30.60	6,965	6,971	25.84
1952	1235	48,900	Jan. 18, 1952	330	7,010	7,007	1.91	26.07	6,561	6,547	24.35
1953	1275	33,100	May 31, 1953	474	5,615	5,616	1.53	20.83	5,323	5,318	19.74
1954	1335	31,000	Feb. 17, 1954	373	4,935	4,935	1.35	18.33	5,747	5,770	21.43
1955	1385	47,300	Mar. 2, 1955	285	5,351	5,350	1.46	19.85	6,031	6,016	22.32
1956	1435	101,000	Mar. 8, 1956	389	9,547	9,552	2.61	35.53	8,954	8,963	33.34
1957	1505	55,300	Jan. 23, 1957	380	8,051	8,026	1.65	22.34	5,432	5,455	20.15
1958	1555	36,600	Apr. 7, 1958	390	5,557	5,568	1.52	20.65	5,802	5,789	21.47
1959	1625	81,600	Jan. 22, 1959	280	6,489	6,480	1.77	24.04	7,772	7,788	28.89
1960	1705	61,500	Mar. 31, 1960	372	7,276	7,268	1.99	26.96	-	-	-

a Adjusted for change in contents in Chautauqua Lake.

175. Tionesta Creek at Lynch, Pa.

Location.--Lat 41°36'05", long 79°03'00", on left bank at downstream side of highway bridge at Lynch, Forest County, 500 ft upstream from Bluejay Creek and 7 miles south of Sheffield.

Drainage area.--233 sq mi.

Records available.--October 1937 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,252.43 ft above mean sea level, unadjusted.

Average discharge.--23 years (1937-60), 443 cfs.

Extremes.--1937-60: Maximum discharge, 15,000 cfs Jan. 22, 1959 (gage height, 11.25 ft, from floodmark in well), from rating curve extended above 4,600 cfs on basis of slope-area measurement of peak flow; minimum, 12 cfs Sept. 21-23, 1955; minimum gage height recorded, 0.68 ft Sept. 22, 23, 1955.

Revisions.--Some high-water periods for water years 1943 and 1946-48 were revised in WSP 1555; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches	Momentary maximum	
				Discharge (cfs)	Date
December 1942.....	826	-	4.09	-	-
Calendar year 1942....	482	-	28.06	-	-
Water year 1942-43....	596	2.56	34.74	9,900	Dec. 30, 1942
May 1946.....	1,053	-	5.21	-	-
Water year 1945-46....	476	2.04	27.70	12,000	May 28, 1946
Calendar year 1946....	364	-	21.19	-	-
April 1947.....	1,276	-	6.11	-	-
Water year 1946-47....	472	2.03	27.45	10,200	Apr. 5, 1947
Calendar year 1947....	480	-	27.96	-	-
Water year 1947-48....	-	-	-	10,800	Mar. 22, 1948

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	259	1,037	778	965	983	1,161	824	326	687	401	56.9	53.2	624
1952	36.0	320	619	1,826	684	945	653	722	144	47.4	49.6	69.2	511
1953	36.4	131	392	482	533	818	634	1,214	539	69.1	77.0	71.3	416
1954	51.9	62.1	266	362	556	758	976	421	518	132	42.0	45.1	329
1955	639	271	703	660	457	1,569	693	263	125	45.2	43.6	23.2	461
1956	240	604	341	128	566	1,464	1,202	1,060	405	525	706	622	672
1957	160	216	715	547	428	488	1,244	384	155	73.8	60.0	31.9	374
1958	34.9	104	704	221	136	480	950	656	317	569	243	279	393
1959	168	301	239	1,017	894	814	904	494	328	241	74.7	29.3	456
1960	208	555	820	688	529	411	836	762	468	73.7	64.3	27.8	453

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.28	4.97	3.85	4.77	4.39	5.74	3.94	1.61	3.29	1.98	0.28	0.25	36.35
1952	.18	1.53	3.06	9.03	3.17	4.68	3.13	3.57	.69	.23	.25	.33	29.85
1953	.18	.63	1.94	.58	2.38	4.05	3.04	6.01	2.58	.34	.58	.34	24.25
1954	.16	.30	1.31	1.89	2.40	3.75	4.68	2.08	1.52	.65	.21	.22	19.17
1955	3.16	1.30	3.48	3.26	2.04	7.86	3.32	1.30	.60	.22	.22	.11	26.87
1956	1.19	2.89	1.69	.63	2.62	7.25	5.76	5.25	1.94	2.60	3.50	3.94	39.26
1957	.79	1.04	3.54	2.71	1.91	2.41	5.96	1.90	.74	.37	.30	.15	21.82
1958	.17	.50	3.48	1.09	.61	2.37	4.55	3.24	1.52	2.81	1.20	1.34	22.88
1959	.83	1.44	1.18	5.03	3.99	4.03	4.33	2.44	1.57	1.19	.37	.14	26.54
1960	1.03	2.66	4.06	3.40	2.45	2.03	4.00	3.77	2.24	.36	.32	.13	26.45

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	602	35.10
1951	1205	5,470	Nov. 26, 1950	26	624	2.68	36.35	535	31.02
1952	1235,1555	9,400	Jan. 19, 1952	15	511	2.19	29.85	476	27.83
1953	1275	8,900	May 23, 1953	20	416	1.79	24.25	399	23.27
1954	1335	5,110	Mar. 1, 1954	20	329	1.41	19.17	435	25.34
1955	1385,1555	11,400	Oct. 16, 1954	12	461	1.98	26.87	424	24.70
1956	1435,1555	11,100	Mar. 8, 1956	19	672	2.86	39.26	665	38.86
1957	1505	4,990	Jan. 23, 1957	18	374	1.61	21.82	354	20.60
1958	1555	5,620	July 15, 1958	20	393	1.69	22.88	381	22.18
1959	1625	15,000	Jan. 23, 1959	20	456	1.96	26.54	529	30.84
1960	1705	5,250	Mar. 31, 1960	16	453	1.94	26.45	-	-

195. Tionesta Creek Reservoir at Tionesta Creek Dam, Pa.

Location.--Lat 41°28'25", long 79°26'20", at control tower, 0.8 mile upstream from Tionesta Creek Dam on Tionesta Creek, Forest County, 1.8 miles upstream from mouth, and 2 miles southeast of Tionesta.

Drainage area.--478 sq mi.

Records available.--December 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of Corps of Engineers, which is 0.08 ft above mean sea level, datum of 1929.

Extremes.--1940-60: Maximum contents, 98,210 acre-ft Mar. 10, 1956 (elevation, 1,156.04 ft); minimum, 1,910 acre-ft Dec. 5, 1940 (elevation, 1,069.30 ft).

Remarks.--Reservoir is formed by an earthfill dam, rock faced; storage began in 1940 during construction. Dam completed Jan. 9, 1941. Capacity, 133,400 acre-ft between elevations 1,052.00 ft (sill of outlet gates) and 1,170.00 ft (full pool). Minimum pool elevation, 1,085.00 ft (capacity, 7,780 acre-ft). Reservoir is used for flood control. Figures given herein represent total contents.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	10,840	30,498	10,641	9,886	17,797	24,145	12,411	10,652	12,264	10,436	8,576	9,011
1952	8,560	11,041	15,825	42,330	8,555	9,567	8,985	9,718	9,545	9,075	9,038	9,686
1953	8,670	9,815	9,605	11,094	8,836	12,157	10,578	29,191	9,990	11,089	8,436	8,394
1954	8,399	10,062	8,612	9,913	8,415	9,680	7,471	9,713	9,043	9,133	8,566	8,482
1955	9,022	9,064	38,992	8,644	13,551	9,480	15,736	9,133	9,229	8,852	9,133	8,810
1956	10,766	10,265	8,555	9,054	21,193	14,640	16,380	8,664	9,491	9,287	10,342	9,091
1957	9,513	9,160	8,758	11,330	18,024	9,777	24,838	8,607	12,571	9,160	9,091	9,578
1958	9,696	9,181	14,250	8,711	9,160	12,994	17,881	8,493	9,335	9,848	9,826	10,045
1959	9,902	9,750	8,025	19,284	9,218	10,542	29,800	9,070	11,466	9,250	9,659	8,173
1960	8,390	12,600	17,450	9,120	8,200	43,310	8,280	9,370	9,390	9,310	9,510	8,140

TIONESTA CREEK BASIN

200. Tionesta Creek at Tionesta Creek Dam, Pa.

Location.--Lat 41°28'45", long 79°26'45", on left bank 100 ft downstream from outlet tunnel at Tionesta Creek Dam, Forest County, 0.3 mile southeast of Tionesta, and 0.9 mile upstream from mouth.

Drainage area.--479 sq mi.

Records available.--June 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,044.93 ft above mean sea level, unadjusted. June 15 to Aug. 9, 1940, staff gage and Aug. 10, 1940, to Mar. 17, 1945, water-stage recorder, at site 200 ft downstream at datum 1.00 ft higher. Mar. 18, 1945, to June 30, 1954, staff gage at present site and datum. Auxiliary water-stage recorders 0.3 and 0.7 mile downstream at datum 5.49 ft lower.

Average discharge.--20 years (1940-60), 893 cfs (adjusted for storage since 1942).

Extremes.--1940-60: Maximum discharge, 10,300 cfs June 6, 1946; minimum daily, 6 cfs Aug. 10, Sept. 6, 7, 1941.

Remarks.--Flow completely regulated since 1941 by Tionesta Creek Reservoir (see preceding station).

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	409	1,675	1,891	1,968	1,975	2,398	1,895	813	1,197	781	117	87.0	1,262
1952	70.0	546	1,065	3,283	1,964	1,838	1,375	1,523	2,700	84.6	72.7	94.6	1,015
1953	71.2	194	706	917	1,082	1,599	1,261	2,338	1,287	111	176	139	822
1954	45.3	69.1	451	634	1,040	1,490	1,964	808	625	192	74.3	70.5	618
1955	1,370	451	907	1,640	830	5,036	1,231	647	314	101	79.7	49.9	893
1956	320	999	643	232	1,003	2,880	2,269	2,264	883	1,103	1,239	1,771	1,300
1957	300	389	1,338	1,055	816	1,139	2,374	1,038	248	201	102	49.6	754
1958	62.6	196	1,355	528	243	948	1,724	1,472	824	1,306	504	435	804
1959	271	606	535	1,803	2,105	1,569	1,437	1,385	579	494	113	67.7	907
1960	324	940	1,571	1,542	1,112	310	2,232	1,549	841	151	123	75.5	895

Monthly and yearly runoff, in inches (adjusted) ^{a/}

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.02	4.67	3.77	4.70	4.60	6.02	3.95	1.89	2.86	1.81	0.21	0.22	35.72
1952	.15	1.37	2.76	8.93	3.10	4.46	3.18	3.69	.62	.19	.17	.25	28.87
1953	.13	.50	1.69	2.26	2.26	3.98	2.88	6.35	2.24	.31	.32	.32	23.24
1954	.11	.23	1.03	1.58	2.20	3.63	4.49	2.03	1.43	.47	.16	.16	17.52
1955	3.32	1.05	3.35	2.76	2.00	7.15	3.11	1.30	.74	.23	.20	.10	25.31
1956	.85	2.31	1.48	.58	2.73	6.68	5.36	5.15	2.09	2.65	3.02	4.07	36.97
1957	.74	.89	3.21	2.64	2.04	2.42	6.11	1.87	.73	.35	.24	.13	21.37
1958	.16	.44	3.46	1.05	.55	2.43	4.21	3.17	1.95	3.16	1.21	1.02	22.81
1959	.65	1.41	1.22	4.78	4.19	3.82	4.11	2.52	1.44	1.10	.29	.10	25.63
1960	.79	2.35	3.97	3.39	2.47	2.12	3.83	3.77	1.96	.36	.30	.12	25.43

^a Adjusted for change in contents in Tionesta Creek Reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year				
		Observed				Adjusted ^{a/}		Observed	Adjusted ^{a/}			
		Momentary	maximum	Minimum	Mean	Mean	Per square mile	Mean	Mean	Runoff	Runoff	Runoff
		Discharge	Date	day			inches			in inches		
1950	-	-	-	-	-	-	-	1,246	1,246	35.30		
1951	1205	6,720	Feb. 24, 1951	59	1,262	1,261	2.63	35.72	1,070	1,077	30.54	
1952	1235	9,550	Jan. 29, 1952	30	1,015	1,016	2.12	28.87	956	947	26.91	
1953	1275	6,800	May 27, 1953	39	822	820	1.71	23.24	788	787	22.29	
1954	1355	7,940	Apr. 28, 1954	19	618	618	1.29	17.52	800	842	23.87	
1955	1385	7,660	Mar. 7, 1955	37	893	892	1.86	25.31	826	784	22.23	
1956	1435	9,960	Mar. 12, 1956	17	1,300	1,300	2.71	36.97	1,307	1,307	37.17	
1957	1505	6,310	Apr. 10, 1957	20	754	755	1.58	21.37	719	727	20.59	
1958	1555	6,060	May 9, 10, 1958	23	804	805	1.68	22.81	786	785	22.03	
1959	1625	7,560	Jan. 25, 1959	51	907	904	1.89	25.63	1,027	1,040	29.46	
1960	1705	7,060	Apr. 6, 1960	54	895	895	1.87	25.43	-	-	-	

^a Adjusted for change in contents in Tionesta Creek Reservoir.

205. Oil Creek at Rouseville, Pa.

Location.--Lat 41°28'55", long 79°41'40", on right bank 200 ft downstream from bridge on State Highway 8, 200 ft upstream from Cherrytree Run, and 1 mile upstream from Rouseville, Venango County. Records include flow of Cherrytree Run.

Drainage area.--300 sq mi, includes that of Cherrytree Run.

Records available.--June 1932 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,028.33 ft above mean sea level, unadjusted. Prior to June 9, 1941, chain gage at same site and datum.

Average discharge.--28 years (1932-60), 529 cfs.

Extremes.--1932-60: Maximum discharge, 21,000 cfs Jan. 22, 1959 (gage height, 11.97 ft); minimum observed, 22 cfs July 29, Sept. 5, 7, 1934; minimum gage height, 1.55 ft Sept. 23, 1955.

Remarks.--Some regulation at low flow by mills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	313	1,029	1,112	1,314	1,351	1,287	1,176	322	441	267	66.8	59.1	724
1952	60.5	559	858	2,195	975	1,300	775	904	174	76.3	116	70.6	673
1953	62.9	290	557	643	555	900	649	1,706	618	109	71.9	76.5	519
1954	40.5	72.9	247	571	702	1,059	1,521	603	268	74.0	40.3	43.4	434
1955	916	396	1,004	678	771	1,409	887	294	221	110	87.8	47.4	569
1956	242	636	611	189	993	1,637	1,302	1,313	409	451	646	542	746
1957	181	224	657	717	638	550	1,694	428	522	195	96.8	48.1	493
1958	51.7	148	856	299	255	893	699	639	729	747	359	351	505
1959	159	501	325	1,376	1,232	1,116	998	561	376	208	91.6	54.3	579
1960	433	787	1,078	846	794	786	906	771	343	142	183	47.1	593

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.20	3.83	4.27	5.05	4.69	4.95	4.38	1.24	1.64	1.03	0.26	0.22	32.76
1952	.23	2.08	5.30	8.43	3.50	4.99	2.88	3.47	.65	.29	.45	.26	30.53
1953	.24	1.08	2.14	2.47	1.86	3.46	2.41	6.56	2.30	.42	.28	.28	23.50
1954	.16	1.27	.95	2.20	2.44	4.07	5.65	2.32	1.00	.28	.15	.16	19.65
1955	3.52	1.47	3.86	2.60	2.68	5.41	3.30	1.13	.82	.42	.34	.18	25.73
1956	.93	2.36	2.35	.73	3.57	6.29	4.84	5.04	1.52	1.73	2.48	2.02	33.86
1957	.69	.83	2.52	2.75	2.21	2.11	6.30	1.64	1.94	.75	.37	.18	22.29
1958	.20	.55	3.29	1.15	.89	3.43	2.60	2.46	2.71	2.87	1.38	1.30	22.63
1959	.61	1.86	1.25	5.29	4.26	4.29	3.71	2.15	1.40	.90	.35	.20	26.19
1960	1.66	2.93	4.14	3.25	2.86	3.02	3.37	2.96	1.28	.55	.70	.18	26.90

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	780	35.30
1951	1205	9,240	Jan. 4, 1951	41	724	2.41	32.76	642	29.07
1952	1235	10,500	Jan. 27, 1952	32	673	2.24	30.53	626	28.38
1953	1275	9,580	May 26, 1953	32	519	1.73	23.50	473	21.42
1954	1335	5,860	Apr. 17, 1954	27	434	1.45	19.65	599	27.12
1955	1385	18,600	Oct. 16, 1954	28	569	1.90	25.73	498	22.52
1956	1435	9,020	May 13, 1956	42	746	2.49	33.86	711	32.26
1957	1505	9,720	Jan. 23, 1957	39	493	1.64	22.29	493	22.29
1958	1555	4,100	June 13, 1958	36	505	1.68	22.83	498	22.51
1959	1625	21,000	Jan. 22, 1959	35	579	1.93	26.19	690	31.20
1960	1705	10,500	Mar. 31, 1960	37	593	1.98	26.90	-	-

FRENCH CREEK BASIN

215. French Creek at Carters Corners, Pa.

Location.--Lat 41°57'20", long 79°52'40", on left bank 400 ft upstream from highway bridge at Carters Corners, Erie County, 4 miles northwest of Union City, and 5 miles upstream from South Branch.

Drainage area.--208 sq mi.

Records available.--October 1909 to September 1960. Published as North Branch French Creek at Kimmeytown, 1910-14 and as "at Kimmeytown" 1915-32. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,235.7 ft above mean sea level. Prior to Dec. 22, 1948, chain gage at site 400 ft downstream at same datum.

Average discharge.--51 years (1909-60), 416 cfs.

Extremes.--1909-60: Maximum discharge, 20,000 cfs Apr. 5, 1947 (gage height, 13.50), by slope-area measurement of peak flow; maximum gage height observed, 16.0 ft Feb. 20, 1918 (ice jam), site then in use; minimum discharge observed, 3.9 cfs Aug. 15, 18-21, 1930; minimum gage height observed, 0.35 ft Aug. 23, 1931, site then in use.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	321	966	974	1,000	937	926	802	169	139	170	23.6	22.6	535
1952	51.8	483	631	1,230	608	892	463	565	82.4	33.7	41.3	112	433
1953	52.7	221	575	534	568	781	603	580	204	36.7	25.3	45.0	351
1954	22.9	74.1	382	696	684	945	1,052	351	104	20.6	11.1	13.0	359
1955	538	654	823	576	612	1,142	461	118	76.9	24.7	46.3	22.8	424
1956	349	569	568	147	769	1,340	976	815	240	320	303	291	557
1957	144	222	903	803	639	460	1,106	203	188	132	28.5	32.7	403
1958	39.1	184	674	176	211	955	617	289	294	285	218	665	385
1959	225	591	356	1,152	959	1,082	714	267	137	52.3	17.6	14.2	461
1960	285	630	969	845	672	737	856	392	204	42.7	18.1	12.1	471

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.78	5.18	5.40	5.54	4.69	5.13	4.30	0.94	0.74	0.94	0.13	0.12	34.89
1952	.29	2.59	3.50	6.82	3.16	4.94	2.48	3.13	.44	.19	.23	.60	28.37
1953	.29	1.18	3.19	2.96	2.85	4.33	3.23	3.21	1.09	.20	.14	.24	22.91
1954	.13	.40	2.12	3.86	3.42	5.24	5.64	1.83	.56	.11	.06	.07	23.44
1955	2.98	3.51	4.56	3.19	3.06	6.33	2.47	.65	.41	.14	.28	.12	27.68
1956	1.93	3.05	3.15	.81	3.99	7.43	5.24	4.52	1.29	1.78	1.68	1.56	36.43
1957	.80	1.19	5.01	4.45	3.20	2.55	5.93	1.13	1.01	.73	.16	.18	26.34
1958	.22	.99	3.74	.98	1.06	5.29	3.31	1.60	1.58	1.58	1.21	3.57	25.13
1959	1.25	3.17	1.97	6.39	4.80	6.00	3.83	1.48	.74	.29	.10	.08	30.10
1960	1.56	3.38	5.37	4.68	3.48	4.08	4.59	2.17	1.09	.24	.10	.07	30.83

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	593	38.69
1951	1205	10,900	Dec. 4, 1950	14	535	2.57	34.89	443	28.91
1952	1235	6,820	Mar. 11, 1952	14	433	2.08	28.37	407	26.65
1953	1275	3,260	May 26, 1953	8.3	351	1.69	22.91	320	20.90
1954	1335	4,530	Jan. 27, 1954	7.4	359	1.73	23.44	488	31.84
1955	1385	8,060	Oct. 16, 1954	14	424	2.04	27.68	380	24.76
1956	1435	7,860	Mar. 6, 1956	22	557	2.68	36.43	539	35.30
1957	1505	14,300	Jan. 23, 1957	17	403	1.94	26.34	372	24.29
1958	1555	3,200	Mar. 2, 1958	15	385	1.85	25.13	407	26.57
1959	1625	13,500	Jan. 22, 1959	8.8	461	2.22	30.10	521	34.04
1960	1705	13,100	Mar. 31, 1960	10	471	2.26	30.83	-	-

240. French Creek at Utica, Pa.

Location--Lat 41°26'15", long 79°57'20", on right bank at upstream side of bridge on State Highway 964 at Utica, Venango County, a third of a mile upstream from Mill Creek.

Drainage area--1,028 sq mi.

Records available--August 1932 to September 1960.

Gage--Water-stage recorder. Datum of gage is 1,019.54 ft above mean sea level, adjustment of 1907. Prior to Nov. 27, 1933, chain gage at same site and datum.

Average discharge--28 years (1932-60), 1,746 cfs.

Extremes--1932-60: Maximum discharge, 22,100 cfs Apr. 1, 1960 (gage height, 12.69 ft); minimum, 43 cfs July 30, 1934 (gage height, 1.03 ft).
Maximum stage known, 15.7 ft during flood in March 1913 (discharge, 35,600 cfs, from rating curve extended above 21,000 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	907	3,341	4,471	4,135	4,028	3,840	3,681	956	838	858	167	142	2,269
1952	170	1,869	2,839	6,306	3,292	3,821	2,208	2,670	434	186	271	333	2,035
1953	197	855	2,016	2,180	2,104	3,062	2,439	3,667	1,736	198	141	149	1,560
1954	91.7	183	1,011	2,200	2,534	3,989	4,516	1,687	454	156	77.8	80.4	1,407
1955	2,738	1,796	3,415	2,678	2,765	4,584	2,168	685	531	320	279	101	1,858
1956	922	2,224	2,494	682	4,021	5,514	4,196	4,160	1,390	1,267	1,907	1,766	2,539
1957	604	753	2,862	2,958	2,582	2,149	5,056	1,088	1,211	1,082	138	124	1,694
1958	137	376	2,713	1,139	956	3,678	2,049	1,741	1,449	1,640	1,223	2,146	1,610
1959	759	1,678	1,522	4,687	4,754	4,171	2,712	1,594	817	443	205	153	1,956
1960	1,807	2,924	4,046	3,446	3,066	1,991	4,643	2,220	713	254	269	97.5	2,118

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.02	3.63	5.01	4.64	4.08	4.31	4.00	1.07	0.91	0.96	0.19	0.15	29.97
1952	.19	2.03	3.18	7.07	3.45	4.29	2.40	2.99	.47	.21	.30	.36	26.94
1953	.22	.93	2.26	2.44	2.13	5.43	2.65	4.11	1.88	.22	.16	.16	20.59
1954	.10	.20	1.13	2.47	2.57	4.47	4.90	1.89	.49	.17	.09	.09	18.57
1955	3.07	1.95	3.83	3.00	2.80	5.14	2.35	.77	.58	.36	.31	.11	24.27
1956	1.03	2.41	2.80	.77	4.22	6.18	4.55	4.67	1.51	1.42	2.14	1.92	33.62
1957	.68	.82	3.21	3.32	2.41	2.41	5.49	1.22	1.31	1.21	.15	.13	22.36
1958	.15	.41	3.04	1.28	.97	4.12	2.22	1.95	1.57	1.84	1.37	2.33	21.25
1959	.85	2.04	1.71	5.23	4.82	4.68	2.94	1.79	.89	.50	.23	.17	25.85
1960	2.03	3.17	4.54	3.86	3.22	2.23	5.04	2.49	.77	.29	.30	.11	28.05

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2,707	35.75
1951	1205	19,000	Dec. 5, 1950	99	2,269	2.21	29.97	1,947	25.71
1952	1235	14,100	Jan. 28, 1952	95	2,035	1.98	26.94	1,885	24.95
1953	1275	10,100	June 1, 1953	68	1,560	1.52	20.59	1,411	18.61
1954	1355	10,600	Mar. 3, 1954	58	1,407	1.37	18.57	1,968	25.99
1955	1385	16,400	Oct. 17, 1954	70	1,858	1.79	24.27	1,641	21.66
1956	1435	17,900	Mar. 9, 1956	102	2,539	2.47	33.62	2,423	32.09
1957	1505	15,800	Jan. 24, 1957	87	1,694	1.65	22.36	1,611	21.25
1958	1555	11,300	July 15, 1958	84	1,610	1.57	21.25	1,685	22.25
1959	1625	19,300	Jan. 24, 1959	79	1,956	1.90	25.85	2,346	30.99
1960	1705	22,100	Apr. 1, 1960	73	2,118	2.06	28.05	-	-

FRENCH CREEK BASIN

250. Sugar Creek at Sugarcreek, Pa.

Location.--Lat 41°25'45", long 79°52'45", on right bank at downstream side of highway bridge, three-quarters of a mile north of Sugarcreek, Venango County, three-quarters of a mile upstream from mouth, and 3 miles northwest of Franklin.

Drainage area.--166 sq mi.

Records available.--August 1932 to September 1960. Monthly discharge only for August 1932, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,014.03 ft above mean sea level, adjustment of 1912. Aug. 20, 1932, to Dec. 7, 1939, chain gage and Dec. 8, 1939, to Aug. 31, 1948, water-stage recorder, at same site at datum 2.00 ft higher. Sept. 1, 1948, to Nov. 11, 1952, water-stage recorder at same site at datum 1.20 ft higher.

Average discharge.--28 years (1932-60), 271 cfs.

Extremes.--1932-60: Maximum discharge, 10,000 cfs May 28, 1946 (gage height, 10.49 ft, present datum); maximum gage height, 10.5 ft, Jan. 25, 1937, present datum, from graph based on gage readings; minimum discharge observed, 9.2 cfs Oct. 22, 1935.

Remarks.--Some regulation at low flow by mills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	86.5	429	593	692	706	624	611	181	136	95.5	35.2	26.6	349
1952	29.7	211	397	1,223	548	637	430	565	113	47.9	49.4	41.2	358
1953	32.7	113	247	340	263	450	343	787	356	61.6	37.3	29.9	254
1954	22.5	32.9	78.1	209	275	446	559	310	126	41.2	22.3	19.2	178
1955	366	148	524	349	472	783	439	159	130	117	122	34.2	303
1956	144	403	314	111	668	822	703	790	230	143	341	247	409
1957	88.2	92.6	309	382	344	333	771	249	223	115	36.0	30.4	247
1958	32.6	49.2	354	165	164	439	308	351	353	534	120	120	249
1959	82.6	180	154	699	686	537	562	308	153	139	56.0	33.5	297
1960	238	384	664	535	427	482	499	473	125	56.2	36.8	29.1	328

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.60	2.89	4.12	4.81	4.43	4.33	4.11	1.28	0.91	0.65	0.24	0.18	28.53
1952	.21	1.42	2.76	6.50	3.58	4.43	2.89	3.93	.76	.33	.54	.28	29.41
1953	.23	.76	1.71	2.36	1.65	3.13	2.31	5.47	2.26	.43	.26	.20	20.77
1954	.16	.22	.54	1.45	1.72	3.10	3.76	2.15	.84	.29	.15	.13	14.51
1955	2.54	.99	3.64	2.42	2.96	5.44	2.95	1.11	.87	.81	.85	.23	24.81
1956	1.00	2.71	2.18	.77	4.34	5.71	4.73	5.49	1.54	.99	2.37	1.66	33.49
1957	.61	.62	2.15	2.65	2.15	2.31	5.18	1.73	1.50	.80	.25	.20	20.15
1958	.23	.33	2.46	1.15	1.03	3.05	2.07	2.30	2.37	3.71	.83	.81	20.34
1959	.57	1.21	1.07	4.86	4.30	3.75	3.76	2.14	1.03	.97	.39	.23	24.28
1960	1.65	2.58	4.61	3.72	2.78	3.21	3.35	3.28	.84	.39	.28	.20	26.87

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	402	32.90	
1951	1205	4,680	Jan. 4, 1951	-	349	2.10	28.53	309	25.31	
1952	1255	7,010	Jan. 27, 1952	18	358	2.16	29.41	338	27.72	
1953	1275	7,050	May 31, 1953	18	254	1.53	20.77	232	18.99	
1954	1335	3,640	Apr. 17, 1954	15	178	1.07	14.51	254	20.76	
1955	1385	9,480	Oct. 16, 1954	24	303	1.83	24.81	288	23.53	
1956	1455	8,560	May 13, 1956	30	409	2.46	33.49	378	30.98	
1957	1505	5,620	Jan. 23, 1957	22	247	1.49	20.15	242	19.79	
1958	1555	7,700	July 15, 1958	21	249	1.50	20.34	247	20.17	
1959	1625	9,600	Jan. 21, 1959	20	297	1.79	24.28	370	20.27	
1960	1705	7,300	Mar. 31, 1960	22	328	1.98	26.87	-	-	

255. Allegheny River at Franklin, Pa.

Location.--Lat 41°23'25", long 79°49'10", on right bank at downstream side of Eighth Street Bridge on U.S. Highway 62 at Franklin, Venango County, 1,000 ft downstream from French Creek.

Drainage area.--5,982 sq mi.

Records available.--October 1914 to September 1960. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at same site since April 1905 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 955.92 ft above mean sea level, unadjusted. Prior to Aug. 12, 1919, staff gage, Aug. 12, 1919, to Sept. 15, 1932, chain gage, and Sept. 16-30, 1932, water-stage recorder, all at present site at datum 2.00 ft higher.

Average discharge.--46 years (1914-60), 10,360 cfs (adjusted for storage since 1941).

Extremes.--1914-60: Maximum discharge, 138,000 cfs Mar. 13, 1920 (gage height, 20.65 ft, present datum); maximum gage height observed, 26.0 ft Feb. 26, 1926, present datum (ice jam); minimum discharge, 334 cfs July 30, 1934 (gage height, 1.63 ft).

Maximum free-flow stage known, 25.0 ft Mar. 17, 1865, present datum (discharge, 196,000 cfs, from rating curve extended above 120,000 cfs). Flood of Mar. 26, 1913, reached a stage of 24.6 ft, present datum, from graph based on gage readings (discharge, 191,000 cfs, from rating curve extended above 120,000 cfs). Flood of Feb. 27, 1917 (ice jam), equaled that of Feb. 26, 1926.

Remarks.--Flow regulated by Chautauqua Lake and, since 1940, by Tionesta Creek Reservoir.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,061	21,860	22,980	23,980	23,000	24,310	22,460	6,743	7,433	6,175	1,214	1,062	13,780
1952	1,041	8,942	14,240	37,780	18,730	23,750	16,010	15,170	3,471	1,187	1,228	1,399	12,010
1953	1,223	4,165	10,270	11,490	12,470	20,140	14,460	22,830	12,220	1,539	1,457	1,364	9,461
1954	924	1,737	6,338	10,020	14,900	19,680	25,220	11,550	5,270	1,302	741	766	8,149
1955	10,520	6,923	14,960	15,550	11,580	32,790	13,590	5,444	3,114	1,448	1,759	768	9,897
1956	8,196	15,660	12,350	3,918	15,720	37,070	28,860	23,720	8,590	8,468	11,530	12,770	15,560
1957	3,512	4,959	17,520	15,830	11,500	13,750	30,920	10,360	5,321	4,352	1,097	810	9,957
1958	853	2,201	13,950	5,204	4,257	15,930	22,710	14,750	10,010	10,320	5,124	7,325	9,415
1959	4,069	9,449	7,181	23,230	23,960	22,130	21,990	10,640	4,566	2,948	1,144	867	10,920
1960	7,102	15,600	21,870	18,620	15,570	9,723	26,190	14,960	9,832	2,294	1,727	805	11,990

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.96	4.20	4.30	4.62	4.06	4.70	4.16	1.29	1.39	1.18	0.21	0.19	31.26
1952	.18	1.71	2.77	7.39	3.22	4.60	3.00	3.11	.64	.22	.24	.25	27.33
1953	.20	.78	1.99	2.24	2.16	3.93	2.68	4.48	2.18	.30	.27	.25	21.46
1954	.13	.33	1.25	1.98	2.58	3.80	4.72	2.20	.99	.24	.13	.14	18.49
1955	2.03	1.28	3.02	2.85	2.07	6.31	2.58	1.02	.58	.27	.34	.13	22.48
1956	1.58	2.92	2.36	.73	2.92	7.14	5.38	4.54	1.60	1.63	2.25	2.35	35.40
1957	.64	.91	3.40	3.07	2.02	2.63	5.82	1.93	1.03	.81	.20	.14	22.60
1958	.15	.42	2.73	.96	.74	3.11	4.27	2.79	1.87	1.99	.97	1.37	21.37
1959	.77	1.77	1.36	4.59	4.08	4.29	4.14	1.99	.85	.55	.22	.15	24.76
1960	1.37	2.93	4.23	3.54	2.80	2.02	4.75	2.91	1.83	.42	.32	.13	27.25

a Adjusted for change in contents in Chautauqua Lake and Tionesta Creek Reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Observed				Adjusted a/		Observed	Adjusted a/		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	14,760	14,760	33.50	
1951	1205	84,400	Dec. 4, 1950	720	13,780	13,780	2.30	31.26	11,640	11,650	26.46
1952	1235	77,700	Jan. 27, 1952	575	12,010	12,010	2.01	27.33	11,300	11,280	25.64
1953	1275	63,400	May 31, 1953	697	9,461	9,460	1.58	21.46	8,902	8,896	20.20
1954	1335	48,700	Feb. 17, 1954	546	8,149	8,149	1.36	18.49	10,120	10,180	23.11
1955	1385	78,600	Oct. 16, 1954	546	9,897	9,895	1.65	22.48	10,200	10,140	23.01
1956	1435	134,000	Mar. 8, 9, 1956	760	15,560	15,560	2.60	35.40	14,710	14,720	33.49
1957	1505	83,400	Jan. 23, 1957	630	9,957	9,952	1.66	22.60	9,219	9,230	20.95
1958	1555	44,200	July 15, 1958	620	9,415	9,427	1.58	21.37	9,709	9,695	21.97
1959	1625	126,000	Jan. 22, 1959	555	10,920	10,910	1.82	24.76	12,930	12,960	29.39
1960	1705	102,000	Mar. 31, 1960	630	11,990	11,980	2.00	27.25	-	-	-

a Adjusted for change in contents in Chautauqua Lake and Tionesta Creek Reservoir.

265. Sevenmile Run near Rasselas, Pa.

Location.--Lat 41°37'52", long 78°34'37", on right bank 300 ft upstream from highway bridge, 600 ft upstream from Fivemile Run, and 3.2 miles northeast of Rasselas, Elk County.

Drainage area.--7.84 sq mi.

Records available.--October 1951 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,690.73 ft above mean sea level, datum of 1929.

Average discharge.--9 years (1951-60), 14.5 cfs.

Extremes.--1951-60: Maximum discharge, 1,590 cfs Aug. 9, 1953 (gage height, 4.78 ft), from rating curve extended above 200 cfs on basis of slope-area measurement of peak flow; minimum, 0.07 cfs Sept. 21, 1955 (gage height, 1.70 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	1.0	6.90	20.3	56.4	22.2	32.1	25.1	28.5	4.30	1.15	0.885	0.983	16.7
1953	.624	4.73	12.6	13.2	15.6	28.3	19.6	47.8	16.1	1.40	19.5	7.14	15.6
1954	2.32	7.16	17.4	13.5	16.8	25.3	28.8	14.7	7.40	2.47	.762	.730	11.4
1955	11.8	7.14	16.3	17.6	9.27	55.3	14.6	4.99	1.95	.641	.874	.337	11.8
1956	9.34	13.9	9.21	3.16	12.2	47.8	38.2	35.4	11.5	9.96	32.7	14.3	19.9
1957	4.63	6.43	25.1	16.2	15.9	17.0	35.3	12.4	8.01	3.41	.597	.531	12.1
1958	.661	1.45	19.8	7.32	4.31	11.9	45.6	21.5	5.38	14.3	16.8	12.6	13.5
1959	8.90	10.1	7.00	32.9	25.8	29.0	34.2	13.2	5.31	4.70	1.35	.531	14.3
1960	6.03	24.6	24.1	21.6	17.7	15.3	29.1	19.7	21.3	2.08	1.52	.831	15.3

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	0.15	0.98	2.98	8.29	3.06	4.71	3.57	4.19	0.61	0.17	0.13	0.14	28.98
1953	.09	.67	1.86	1.94	2.08	4.16	2.82	7.03	2.29	.21	2.87	1.02	27.04
1954	.34	1.02	2.56	1.98	2.24	3.73	4.10	2.16	1.05	.36	.11	.10	19.75
1955	1.73	1.02	2.40	2.58	1.23	8.14	2.08	.73	.28	.09	.13	.05	20.46
1956	1.37	1.98	1.35	.47	1.68	7.04	5.44	5.20	1.83	1.46	4.80	2.03	34.45
1957	.68	.92	3.69	2.38	2.11	2.51	5.03	1.83	1.14	.50	.09	.08	20.98
1958	.10	.21	2.92	1.08	.57	1.75	6.49	3.16	.77	2.10	2.48	1.79	23.42
1959	1.31	1.43	1.03	4.84	3.43	4.26	4.87	1.94	.76	.69	.20	.08	24.84
1960	.89	3.50	3.54	3.17	2.44	2.25	4.14	2.90	3.03	.31	.22	.12	26.51

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1235	290	Jan. 18, 1952	0.18	16.7	2.13	28.98	15.8	27.49
1953	1275	1,590	Aug. 9, 1953	.42	15.6	1.99	27.04	16.4	28.34
1954	1335	263	Mar. 1, 1954	.23	11.4	1.45	19.75	12.1	20.98
1955	1385	279	Oct. 15, 1954	.07	11.8	1.51	20.46	11.6	20.01
1956	1435	624	Mar. 8, 1956	.23	19.9	2.54	34.45	20.2	35.04
1957	1505	222	Jan. 23, 1957	.24	12.1	1.54	20.96	10.9	18.90
1958	1555	271	Apr. 6, 1958	.38	13.5	1.72	23.42	13.8	23.96
1959	1625	1,280	Jan. 21, 1959	.32	14.3	1.82	24.84	16.7	29.00
1960	1705	548	June 15, 1960	.42	15.3	1.95	26.51	-	-

270. East Branch Clarion River Reservoir at East Branch Clarion River Dam, Pa.

Location.--Lat 41°33'35", long 78°35'40", at control tower at East Branch Clarion River Dam, on East Branch Clarion River, Elk County, 1 $\frac{1}{4}$ miles northeast of Glen Hazel, and 7.5 miles upstream from confluence with West Branch Clarion River.

Drainage area.--72.4 sq mi.

Records available.--June 1952 to September 1960.

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

Extremes.--1952-60: Maximum contents, 73,230 acre-ft May 15, 1956 (elevation, 1,676.58 ft); minimum, 159 acre-ft Nov. 9, 1952 (elevation, 1,541.07 ft).

Remarks.--Reservoir is formed by an earthfill dam, rock faced. Dam completed in 1952 and controlled storage began in June 1952. Capacity, 83,300 acre-ft between elevations 1,555 ft (sill of outlet gates) and 1,685 ft (full pool). Minimum pool elevation, 1,555 ft (capacity, 1,000 acre-ft). Winter low-water pool elevation, 1,651 ft (capacity, 45,600 acre-ft). Summer low-water pool elevation, 1,670 ft (capacity, 65,300 acre-ft). Storage to summer pool normally occurs during period Mar. 1 to Apr. 30. Depletion of low-water storage for augmenting flow in Clarion River occurs normally during period June to October. Figures given herein represent total contents. Reservoir is designated multiple-purpose.

Cooperation.--Records furnished by Corps of Engineers.

Water year	Contents, in acre-feet, on last day of month											
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1952	-	-	-	-	-	-	-	-	1,231	1,114	1,131	871
1953	232	2,040	7,345	14,308	21,858	37,315	49,559	71,880	59,094	48,794	43,022	33,994
1954	25,558	24,375	29,305	35,206	43,334	57,040	66,617	65,541	62,202	53,994	41,510	30,490
1955	28,023	24,796	33,220	40,562	43,799	55,155	63,048	63,185	54,895	42,429	31,189	20,935
1956	21,963	28,505	29,926	29,242	35,058	55,867	67,006	66,687	61,641	53,758	48,131	41,614
1957	31,838	24,930	36,758	41,971	47,770	55,436	66,323	36,494	3,434	2,739	2,002	1,486
1958	983	1,084	9,443	13,124	14,504	20,590	41,953	52,082	51,003	53,012	50,262	42,579
1959	32,125	27,846	26,161	43,129	46,115	56,193	65,054	64,696	61,463	52,941	40,674	29,558
1960	26,060	34,640	39,820	44,510	45,290	50,290	62,910	65,510	62,810	52,110	41,610	30,860

275. East Branch Clarion River at East Branch Clarion River Dam, Pa.

Location.--Lat 41°33'10", long 78°35'50", on left bank 700 ft upstream from Middle Fork, 0.5 mile downstream from East Branch Clarion River Dam, Elk County, and 1½ miles northeast of Glen Hazel.

Drainage area.--73.2 sq mi.

Records available.--October 1948 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,517.58 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Average discharge.--12 years (1948-60), 138 cfs (adjusted for storage since 1952).

Extremes.--1948-60: Maximum discharge, 2,590 cfs May 10, 1957 (gage height, 7.25 ft); minimum, 1.5 cfs Feb. 26, 1952 (gage height, 1.00 ft); minimum daily, 6.7 cfs Sept. 21, 22, 1951.

Flood of May 28, 1946, reached a stage of 8.3 ft. from graph based on gage readings at site 1,000 ft downstream and at different datum (discharge, 4,000 cfs).

Remarks.--Flow completely regulated since June 1952 by East Branch Clarion River Reservoir.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	113	440	216	258	297	334	274	87.3	112	122	15.0	11.3	189
1952	8.36	57.4	178	524	213	292	274	295	32.4	18.6	17.4	19.4	161
1953	22.5	14.8	21.0	18.4	16.0	17.5	16.1	90.6	369	188	247	188	101
1954	153	66.8	57.8	24.4	17.7	34.1	95.0	154	96.1	154	209	196	106
1955	129	118	28.4	60.8	40.2	283	24.2	61.8	160	209	200	178	125
1956	67.9	38.3	83.4	49.5	29.8	98.0	158	339	239	233	355	220	160
1957	208	191	51.7	74.5	56.7	55.3	171	565	619	34.5	23.1	20.2	174
1958	19.7	17.7	17.2	19.3	19.1	19.2	21.9	31.9	71.1	102	189	216	62.1
1959	229	156	68.0	27.9	202	95.5	133	136	123	179	220	195	147
1960	104	61.7	147	134	162	46.7	48.2	156	212	198	189	184	137

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.82	6.86	3.47	4.16	4.32	5.37	4.28	1.41	1.74	1.96	0.24	0.18	35.81
1952	.13	.87	2.81	8.25	3.14	4.59	4.18	4.65	.81	.28	.28	.23	30.20
1953	.19	.69	1.68	2.06	2.17	4.22	3.58	7.15	2.34	.31	2.41	.55	27.15
1954	.25	.72	2.18	1.89	2.33	4.05	3.90	2.14	.61	.33	.09	.17	18.66
1955	1.40	.97	2.59	2.84	1.41	7.37	2.39	1.01	.32	.09	.27	.09	20.75
1956	1.34	2.25	1.67	.61	1.93	6.87	5.25	5.26	2.34	1.65	4.16	1.67	35.00
1957	.77	1.14	3.84	2.50	2.29	2.84	5.40	1.58	.96	.37	.18	.18	22.05
1958	.18	.30	2.41	1.25	.62	1.86	5.80	3.10	.81	2.12	2.27	1.33	22.05
1959	.93	1.28	1.15	4.27	3.64	4.09	4.30	2.05	1.05	.63	.31	.12	25.82
1960	.74	3.14	3.64	3.31	2.59	2.02	3.96	3.11	2.54	.38	.28	.05	25.76

a Adjusted for change in contents in East Branch Clarion River Reservoir since June 1952.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted a/					Observed		Adjusted a/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date											
1950	-	-	-	-	-	-	-	-	-	-	-	202	-	38.24
1951	1205	2,350	Nov. 25, 1950	6.7	189	-	2.64	35.81	145	-	-	-	-	27.47
1952	1235	2,020	Jan. 18, 1952	7.3	181	162	2.21	30.20	146	156	28.95	156	28.95	27.74
1953	1275	1,410	June 3, 1953	11	101	147	2.01	27.15	120	150	27.74	150	27.74	27.74
1954	1335	498	Apr. 29-30	14	106	101	1.38	18.66	105	110	20.47	110	20.47	20.47
1955	1385	960	Mar. 9, 10	16	125	112	1.53	20.75	118	114	21.05	114	21.05	21.05
1956	1435	839	May 15, 1956	21	160	188	2.57	35.00	182	191	35.49	191	35.49	35.49
1957	1505	2,590	May 10, 1957	19	174	119	1.63	22.05	141	103	19.19	103	19.19	19.19
1958	1555	295	Sept. 2-5	11	62.1	119	1.63	22.05	95.6	122	22.52	122	22.52	22.52
1959	1625	530	Mar. 28, 1959	18	147	129	1.76	23.82	135	151	27.98	151	27.98	27.98
1960	1705	546	Sept. 21, 1960	20	137	139	1.90	25.76	-	-	-	-	-	-

a Adjusted for change in contents in East Branch Clarion River Reservoir since June 1952; no regulation prior to that date.

280. West Branch Clarion River at Wilcox, Pa.

Location.--Lat 41°34'30", long 78°41'35", on right bank 20 ft downstream from highway bridge at Wilcox, Elk County, 100 ft downstream from Wilson Run, and 0.1 mile upstream from Pennsylvania Railroad bridge.

Drainage area.--63.0 sq mi.

Records available.--October 1953 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,502.02 ft above mean sea level, datum of 1929, supplementary adjustment of 1943. Prior to Nov. 18, 1953, wire-weight gage at site 20 ft upstream at same datum. Nov. 18 to Dec. 8, 1953, staff gage at same site and datum.

Average discharge.--7 years (1953-60), 124 cfs.

Extremes.--1953-60: Maximum discharge, 4,050 cfs Mar. 8, 1956 (gage height, 8.59 ft); minimum, 4.2 cfs Sept. 21, 1955 (gage height, 1.27 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	22.1	43.1	148	115	158	230	262	135	65.2	35.0	14.4	16.0	103
1955	110	63.8	181	160	87.9	460	148	53.4	27.3	12.3	15.9	7.68	110
1956	71.1	140	85.3	32.5	119	429	330	322	129	125	249	176	184
1957	49.4	65.5	213	140	141	154	304	90.7	51.5	26.7	10.0	10.0	104
1958	10.8	20.7	181	68.5	39.6	111	318	175	56.9	156	123	118	115
1959	72.5	85.8	65.4	258	225	225	265	123	78.1	63.1	31.3	11.6	125
1960	81.1	210	214	181	147	115	237	182	131	25.7	23.5	14.9	130

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	0.40	0.76	2.71	2.10	2.62	4.21	4.83	2.47	1.16	0.64	0.26	0.28	22.24
1955	2.01	1.13	2.94	2.94	1.45	8.41	2.62	.98	.48	.23	.29	.14	23.62
1956	1.30	2.48	1.56	.59	2.04	7.86	5.84	5.88	2.28	2.29	4.56	3.12	39.80
1957	.90	1.16	3.99	2.56	2.33	2.82	5.39	1.66	.91	.49	.18	.18	22.47
1958	.20	.37	3.31	1.25	.66	2.02	5.63	3.21	1.01	2.88	2.25	2.10	24.87
1959	1.33	1.52	1.20	4.72	3.71	4.12	4.69	2.26	1.38	1.16	.57	.21	26.87
1960	1.48	3.72	3.91	3.31	2.52	2.11	4.20	3.33	2.32	.47	.43	.26	28.06

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	1335	-	Mar. 1, 1954	9.3	103	1.63	22.24	113	24.45
1955	1385	2,510	Oct. 16, 1954	4.5	110	1.75	23.62	106	22.88
1956	1435	4,050	Mar. 8, 1956	6.0	184	2.92	39.80	187	40.41
1957	1505	1,220	Jan. 23, 1957	5.7	104	1.65	22.47	94.7	20.40
1958	1555	2,040	July 15, 1958	6.1	115	1.65	24.87	116	25.04
1959	1625	3,960	Jan. 22, 1959	8.6	125	1.98	26.87	148	33.93
1960	1705	1,690	June 15, 1960	10	130	2.06	28.06	-	-

CLARION RIVER BASIN

285. Clarion River at Johnsonburg, Pa.

Location.--Lat 41°29'10", long 78°40'43" on right bank at downstream side of highway bridge in Johnsonburg, Elk County, 0.1 mile downstream from Johnson Run, and 0.4 mile downstream from confluence of East and West Branches.

Drainage area.--204 sq mi.

Records available.--October 1945 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,422.98 ft above mean sea level, datum of 1929, supplementary adjustment of 1943. Prior to Nov. 8, 1951, chain gage at same site and datum.

Average discharge.--15 years (1945-60), 388 cfs (adjusted for storage since 1952).

Extremes.--1945-60: Maximum discharge, 11,700 cfs May 28, 1946 (gage height, 9.2 ft, from graph based on gage readings); maximum gage height, 9.25 ft Nov. 25, 1950, from floodmarks; minimum discharge, 6 cfs Sept. 18, 1952 (gage height, 0.68 ft), result of regulation above station; minimum daily, 20 cfs Oct. 5, 1948, Nov. 6, 1951. Flood in July 1942 reached a stage of 16.7 ft, from floodmark.

Remarks.--Flow regulated since June 1952 by East Branch Clarion River Reservoir and at low flow by industrial plants above station.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	287	1,239	598	738	900	951	734	256	293	321	41.3	32.1	529
1952	25.5	138	492	1,500	599	843	692	760	108	40.4	40.9	39.6	441
1953	37.1	79.9	206	258	284	467	384	784	646	248	544	308	354
1954	188	140	331	245	319	513	595	408	266	212	234	229	302
1955	320	224	345	373	230	1,121	317	165	204	229	223	189	330
1956	212	319	241	113	303	917	780	938	498	451	813	488	507
1957	304	318	470	354	336	361	759	781	730	75.0	38.0	36.5	380
1958	34.2	54.9	331	150	102	262	583	362	209	386	396	406	274
1959	350	313	196	524	648	511	592	365	298	265	247	198	374
1960	216	450	566	522	466	284	480	520	503	253	226	204	390

Monthly and yearly runoff, in inches (adjusted) ^a/_a

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.62	6.78	3.38	4.17	4.59	5.38	4.01	1.45	1.60	1.82	0.23	0.18	35.21
1952	.14	.75	2.78	8.48	3.18	4.78	3.78	4.29	.71	.22	.23	.19	29.49
1953	.15	.60	1.65	2.10	2.15	4.06	3.22	6.48	2.35	.45	2.55	.86	26.61
1954	.29	.66	2.32	1.93	2.37	4.18	4.14	2.20	.82	.45	.18	.24	19.76
1955	1.58	.93	2.72	2.78	1.47	7.38	2.47	.94	.36	.15	.23	.09	21.10
1956	1.29	2.34	1.49	.58	2.14	7.09	5.29	5.27	2.25	1.82	4.08	2.06	35.70
1957	.82	1.10	3.75	2.48	2.25	2.74	5.15	1.67	.95	.36	.15	.15	21.57
1958	.15	.51	2.64	1.19	.65	2.04	5.15	2.97	1.04	2.36	1.98	1.52	22.00
1959	1.02	1.32	1.14	4.33	3.58	3.82	4.05	2.03	1.34	.71	.27	.06	23.67
1960	.90	3.25	3.68	3.38	2.53	2.06	3.78	3.17	2.51	.45	.31	.13	26.15

^a Adjusted for change in contents in East Branch Clarion River Reservoir since June 1952

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^a / _a			Observed	Adjusted ^a / _a	
		Momentary maximum		Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date	day							
1950	-	-	-	-	-	-	-	-	555	-	36.93
1951	1205	10,500	Nov. 25, 1950	25	529	-	2.59	35.21	-	407	27.10
1952	1235	6,910	Jan. 18, 1952	20	441	442	2.17	29.49	413	423	28.22
1953	1275	6,680	May 23, 1953	24	354	400	1.96	26.61	383	413	27.48
1954	1335	4,750	Mar. 1, 1954	86	302	297	1.46	19.76	321	326	21.72
1955	1385	3,320	Oct. 6, 1954	101	330	317	1.55	21.10	320	316	20.99
1956	1435	6,870	Mar. 8, 1956	76	507	536	2.63	35.70	534	543	36.25
1957	1505	3,080	May 11, 1957	24	380	325	1.59	21.57	323	285	19.00
1958	1555	3,220	July 15, 1958	26	274	331	1.62	22.00	310	336	22.38
1959	1625	6,670	Jan. 22, 1959	99	374	356	1.75	23.67	405	421	28.02
1960	1705	4,150	June 15, 1960	102	390	392	1.92	26.15	-	-	-

^a Adjusted for change in contents in East Branch Clarion River Reservoir since June 1952.

290. Clarion River at Ridgway, Pa.

Location.--Lat 41°25'15", long 78°44'10", on right bank at downstream side of bridge on State Highway 948 in Ridgway, Elk County, 50 ft downstream from Elk Creek.

Drainage area.--303 sq mi.

Records available.--October 1940 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 1,361.62 ft above mean sea level, unadjusted. Prior to Sept. 16, 1948, chain gage at same site and datum.

Average discharge.--13 years (1940-53), 591 cfs (adjusted for storage since 1952).

Extremes.--1940-53: Maximum discharge, 34,000 cfs July 19, 1942 (gage height, 16.4 ft, from floodmark); from rating curve extended above 13,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 15 cfs Sept. 13, 1943; minimum gage height, 0.47 ft Sept. 29, 1941.

Remarks.--Flow regulated since June 1952 by East Branch Clarion River Reservoir and at low flow by industrial plants above station.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	438	1,881	906	1,142	1,394	1,369	1,100	362	406	376	50.0	44.0	783
1952	37.6	201	739	2,268	863	1,243	1,034	1,178	165	57.0	56.7	50.6	660
1953	50.4	119	337	412	489	802	690	1,187	832	276	597	350	512

Monthly and yearly runoff, in inches (adjusted) ^a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.67	6.92	3.45	4.34	4.79	5.21	4.05	1.38	1.50	1.43	0.19	0.16	35.09
1952	.14	.74	2.81	8.63	3.07	4.73	3.81	4.48	.69	.21	.22	.17	29.70
1953	.15	.55	1.61	1.99	2.15	4.01	3.30	5.90	2.28	.41	1.91	.73	24.99

^a Adjusted for change in contents in East Branch Clarion River Reservoir since June 1952.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted			Observed		Adjusted
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	843	-	37.77
1951	1205	17,500	Nov. 25, 1950	30	783	-	2.58	35.09	597	-	26.74
1952	1235	10,900	Jan. 18, 1952	30	660	661	2.18	29.70	620	630	28.32
1953	1275	8,900	May 23, 1953	35	512	558	1.84	24.99	-	-	-

^a Adjusted for change in contents in East Branch Clarion River Reservoir since June 1952.

294. Toms Run at Cooksburg, Pa.

Location.--Lat 41°20'15", long 79°12'50", on right bank about 100 ft downstream from footbridge on Longfellow Trail, half a mile upstream from mouth, and half a mile northwest of Cooksburg, Forest County.

Drainage area.--12.6 sq mi.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,195 ft (from topographic map).

Extremes.--1959-60: Maximum discharge, 276 cfs May 8, 1960 (gage height, 3.25 ft); minimum, 0.8 cfs Sept. 10-11, 26, 1960 (gage height, 1.20 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	4.14	15.2	37.5	33.9	23.5	20.0	33.4	35.5	21.9	5.23	1.72	1.21	19.4

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	0.38	1.34	3.44	3.11	2.01	1.83	2.96	3.25	1.94	0.48	0.16	0.11	21.01

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date							
1960	1705	276	May 8, 1960		0.8	19.4	1.54	21.01	-	-

CLARION RIVER BASIN

295. Clarion River at Cooksburg, Pa.

Location.--Lat 41°19'50", long 79°12'35", on left bank at downstream side of bridge on State Highway 36 at Cooksburg, Forest County, 300 ft downstream from Toms Run and 5 miles upstream from Canther Run.

Drainage area.--807 sq mi.

Records available.--October 1938 to September 1960. Monthly discharge only for October, November 1938, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,146.48 ft above mean sea level, adjustment of 1912. Prior to May 17, 1939, chain gage at same site and datum.

Average discharge.--22 years (1938-60), 1,451 cfs (adjusted for storage since 1952).

Extremes.--1938-60: Maximum discharge, 32,700 cfs July 19, 1942 (gage height, 14.96 ft); minimum, 41 cfs Aug. 30, 1939 (gage height, 1.22 ft).
Maximum stage known, about 19 ft Mar. 17, 1936, from floodmarks (discharge, 56,000 cfs).

Remarks.--Flow regulated since June 1952 by East Branch Clarion River Reservoir and at low flow by industrial plants above station.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	870	4,241	2,573	3,233	3,881	3,529	2,876	1,205	1,117	713	116	105	2,023
1952	86.6	528	1,756	5,654	2,423	3,153	2,695	3,143	518	139	117	109	1,698
1953	105	258	805	1,217	1,653	2,346	2,261	3,416	1,755	453	1,058	669	1,331
1954	345	379	1,303	1,229	1,660	2,785	2,671	1,492	709	411	331	337	1,135
1955	1,687	703	2,140	1,945	1,349	4,559	1,952	724	549	397	354	267	1,390
1956	796	1,737	1,029	440	2,355	4,126	3,268	3,262	1,800	1,885	2,494	1,241	2,035
1957	650	787	2,182	1,606	1,734	1,711	3,730	1,439	1,006	236	125	127	1,273
1958	127	241	1,887	850	460	1,736	2,863	2,158	1,422	1,806	1,046	1,076	1,312
1959	882	1,075	802	2,825	3,050	2,316	2,395	1,513	925	623	432	280	1,416
1960	691	1,999	2,494	2,312	1,837	1,289	2,409	2,462	1,539	584	346	293	1,519

Monthly and yearly runoff, in inches (adjusted) ^a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.24	5.86	3.68	4.62	5.01	5.04	3.98	1.72	1.54	1.02	0.17	0.15	34.03
1952	.12	.75	2.51	8.08	3.24	4.50	3.73	4.49	.75	.20	.17	.15	28.67
1953	.13	.40	1.27	1.90	2.31	3.71	3.41	5.40	2.13	.41	1.37	.72	23.16
1954	.30	.50	1.97	1.89	2.33	4.30	3.92	2.11	.90	.40	.18	.21	19.01
1955	2.33	.90	3.25	2.95	1.81	6.78	2.88	1.04	.57	.28	.24	.13	23.16
1956	1.16	2.55	1.50	.61	3.28	6.38	4.78	4.66	2.38	2.51	3.44	1.56	34.81
1957	.70	.93	3.40	2.42	2.37	2.63	5.41	1.36	.62	.32	.16	.16	20.48
1958	.17	.34	2.89	1.30	.63	2.62	4.45	3.32	1.94	2.63	1.43	1.31	23.03
1959	1.02	1.38	1.15	4.38	4.01	3.54	3.51	2.16	1.20	.69	.33	.13	23.50
1960	.91	2.97	3.68	3.41	2.47	1.96	3.63	3.57	2.06	.59	.25	.16	25.66

^a Adjusted for change in contents in East Branch Clarion River Reservoir since June 1952.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30								Calendar year			
		Observed				Adjusted ^a /				Observed		Adjusted ^a /	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches		Mean	Mean	Runoff in inches	
		Discharge	Date										
1950	-	-	-	-	-	-	-	-	-	2,134	-	-	35.89
1951	1205	30,400	Nov. 26, 1950	73	2,023	-	2.51	34.03	1,581	-	-	-	26.61
1952	1235	23,400	Jan. 27, 1952	59	1,698	1,699	2.11	28.67	1,596	1,606	27.11	-	27.11
1953	1275	18,800	May 26, 1953	70	1,331	1,377	1.71	23.16	1,404	1,434	24.13	-	24.13
1954	1355	21,000	Mar. 2, 1954	218	1,135	1,150	1.40	19.01	1,345	1,350	22.72	-	22.72
1955	1385	18,000	Oct. 16, 1954	216	1,390	1,377	1.71	23.16	1,306	1,302	21.89	-	21.89
1956	1435	24,600	Mar. 8, 1956	183	2,035	2,064	2.56	34.81	2,043	2,052	34.63	-	34.63
1957	1505	12,800	Jan. 23, 1957	64	1,273	1,218	1.51	20.48	1,158	1,120	18.85	-	18.85
1958	1555	12,800	July 15, 1958	82	1,512	1,369	1.70	23.03	1,352	1,378	23.18	-	23.18
1959	1625	30,400	Jan. 22, 1959	221	1,416	1,398	1.73	23.50	1,619	1,635	27.51	-	27.51
1960	1705	14,500	Mar. 31, 1960	191	1,519	1,521	1.88	25.66	-	-	-	-	-

^a Adjusted for change in contents in East Branch Clarion River Reservoir since June 1952.

305. Clarion River near Piney, Pa.

Location.--Lat 41°11'33", long 79°26'25", on left bank a quarter of a mile downstream from hydroelectric plant of Pennsylvania Electric Co., 2½ miles northeast of Piney, Clarion County, 2.4 miles upstream from Piney Creek, and 3 miles southwest of Clarion.

Drainage area.--951 sq mi.

Records available.--October 1944 to September 1960 (monthly discharge only October 1944 to September 1947).

Gage.--Water-stage recorder. Datum of gage is 1,002.06 ft above mean sea level (Pennsylvania Electric Co. bench mark). Prior to Dec. 23, 1947, records from hydroelectric plant a quarter of a mile upstream.

Average discharge.--16 years (1944-60), 1,779 cfs (adjusted for storage).

Extremes.--1947-60: Maximum discharge, 44,300 cfs Jan. 22, 1959 (gage height, 20.70 ft in gage well; 21.8 ft outside, from floodmarks), from rating curve extended above 17,000 cfs on basis of slope-area measurement of peak flow; minimum not determined. Maximum flood elevation known, 1,028.5 ft at lower pool of dam on Mar. 18, 1936 (discharge, 50,000 cfs, determined by Pennsylvania Electric Co.).

Remarks.--Flow regulated since 1952 by East Branch Clarion River Reservoir and since 1924 by hydroelectric plant at Piney Dam (combined reservoir capacity, 113,200 acre-ft). Records of chemical analyses for the period October 1946 to June 1953 and water temperatures for the period October 1949 to June 1953 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	895	4,787	3,202	4,102	4,777	4,290	3,591	1,413	1,391	754	141	120	2,436
1952	106	655	1,950	6,884	3,021	3,745	3,195	3,822	570	187	135	124	2,035
1953	111	303	865	1,394	1,849	2,701	2,657	4,070	2,036	467	1,098	711	1,520
1954	339	374	1,392	1,285	1,864	3,280	3,539	1,710	801	429	340	366	1,288
1955	2,139	740	2,655	2,358	1,850	5,661	2,450	839	675	429	428	290	1,716
1956	889	2,111	1,154	464	3,154	4,895	3,998	3,993	1,916	2,169	2,830	1,327	2,405
1957	725	842	2,542	1,964	2,067	2,024	4,716	1,592	1,126	286	162	167	1,511
1958	161	297	2,310	990	615	2,004	3,219	2,552	1,710	2,372	1,164	1,210	1,557
1959	948	1,225	948	3,403	3,810	2,637	2,992	2,067	960	653	652	318	1,721
1960	658	2,174	3,009	2,788	2,143	1,680	2,944	3,082	1,893	653	382	384	1,812

Monthly and yearly runoff, in inches (adjusted) ^{a/}

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.09	5.62	3.85	4.98	5.26	5.21	4.18	1.73	1.61	0.94	0.17	0.15	34.79
1952	.13	.74	2.40	8.32	3.42	4.54	3.75	4.63	.71	.19	.17	.14	29.14
1953	.13	.37	1.15	1.82	2.18	3.56	3.36	5.42	2.13	.35	1.23	.62	22.32
1954	.25	.42	1.76	1.65	2.21	4.24	4.14	2.06	.85	.36	.17	.20	18.31
1955	2.56	.82	3.41	2.97	2.09	7.08	3.01	1.05	.63	.28	.27	.15	24.32
1956	1.11	2.59	1.41	.57	3.72	6.31	4.91	4.81	2.19	2.48	3.30	1.45	34.85
1957	.67	.85	3.31	2.48	2.41	2.59	5.73	1.36	.66	.34	.17	.18	20.75
1958	.18	.36	2.96	1.27	.63	2.63	4.20	3.29	2.00	2.88	1.38	1.26	23.04
1959	.95	1.36	1.15	4.42	4.22	3.65	3.72	2.48	1.07	.61	.32	.14	24.09
1960	.92	2.77	3.70	3.49	2.45	2.16	3.67	3.80	2.13	.61	.25	.15	26.10

^a Adjusted for change in contents in East Branch Clarion River Reservoir since June 1952 and in Piney Reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year			
		Observed				Adjusted ^{a/}			Observed	Adjusted ^{a/}		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date									
1950	-	-	-	-	-	-	-	-	2,561	2,562	36.57	
1951	1205	32,000	Nov. 28, 1950	22	2,438	2,437	2.56	34.79	1,923	1,926	27.50	
1952	1235	27,800	Jan. 27, 1952	21	2,035	2,036	2.14	29.14	1,915	1,923	27.52	
1953	1275	22,400	May 26, 1953	22	1,520	1,564	1.64	22.32	1,590	1,619	23.10	
1954	1335	23,600	Mar. 2, 1954	24	1,288	1,283	1.35	18.31	1,578	1,587	22.67	
1955	1385	21,300	Oct. 16, 1954	22	1,716	1,704	1.79	24.32	1,595	1,587	22.64	
1956	1435	26,600	Mar. 8, 1956	22	2,405	2,434	2.56	34.85	2,405	2,416	34.57	
1957	1505	14,500	Jan. 23, 1957	22	1,511	1,455	1.53	20.75	1,398	1,361	19.42	
1958	1555	15,800	July 15, 1958	22	1,857	1,613	1.70	23.04	1,585	1,610	23.00	
1959	1625	44,300	Jan. 22, 1959	17	1,721	1,687	1.77	24.09	1,948	1,963	28.02	
1960	1705	20,000	Mar. 31, 1960	18	1,612	1,625	1.92	26.10	-	-	-	

^a Adjusted for change in contents in East Branch Clarion River Reservoir since June 1952 and in Piney Reservoir.

CLARION RIVER BASIN

310. Clarion River at St. Petersburg, Pa.

Location.--Lat 41°08'55", long 79°39'40", on left bank at downstream side of highway bridge, 1 mile south of St. Petersburg, Clarion County, 1.6 miles downstream from Turkey Run, and 4.5 miles upstream from mouth.

Drainage area.--1,246 sq mi.

Records available.--October 1941 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 876.13 ft above mean sea level, datum of 1929. Prior to Oct. 23, 1941, wire-weight gage at same site and datum.

Average discharge.--12 years (1941-53), 2,252 cfs (adjusted for storage).

Extremes.--1941-53: Maximum discharge, 44,400 cfs Dec. 30, 1942 (gage height, 16.45 ft); maximum gage height, 20.17 ft Feb. 22, 1945 (ice jam); probably little or no flow Jan. 11, 1942 (gage height, -0.39 ft), result of ice jam upstream; minimum daily discharge, 34 cfs Sept. 14, 1952.

Remarks.--Flow regulated since 1952 by East Branch Clarion River Reservoir and since 1924 by hydroelectric plant at Piney Reservoir (capacity, 1,258,000,000 cu ft).

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,029	5,256	4,237	5,182	6,068	5,192	4,634	1,912	1,796	972	191	179	3,030
1952	151	974	2,570	8,582	3,840	4,554	3,865	4,773	765	225	183	150	2,558
1953	142	398	1,140	1,950	2,354	3,490	3,330	5,158	2,584	576	1,172	724	1,916

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.95	4.71	3.90	4.80	5.09	4.81	4.13	1.79	1.58	0.92	0.17	0.17	33.02
1952	.14	.85	2.40	7.92	3.32	4.22	3.46	4.42	.72	.20	.17	.13	27.95
1953	.13	.37	1.13	1.90	2.08	3.46	3.17	5.14	2.11	.37	1.01	.49	21.36

a Adjusted for change in contents in East Branch Clarion River Reservoir since June 1952 and in Piney Reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed			Adjusted a/				Observed	Adjusted a/	
		Maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date	day							
1950	-	-	-	-	-	-	-	-	-	-	-
1951	1205	35,800	Nov. 26, 1950	53	3,030	3,031	2.43	33.02	3,122	3,124	34.04
1952	1235	36,400	Jan. 27, 1952	34	2,558	2,559	2.05	27.95	2,482	2,485	26.85
1953	1275	34,000	May 31, 1953	38	1,916	1,960	1.57	21.36	-	-	-

a Adjusted for change in contents in East Branch Clarion River Reservoir since June 1952 and in Piney Reservoir.

315. Allegheny River at Parkers Landing, Pa.

Location.--Lat 41°06'05", long 79°40'45", on right bank 500 ft downstream from bridge on State Highway 368 at Parkers Landing, Armstrong County, and 1.1 miles downstream from Clarion River.

Drainage area.--7,671 sq mi.

Records available.--October 1932 to September 1960. Gage-height records collected at same site since 1885 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 845.14 ft above mean sea level, adjustment of 1907. Prior to Oct. 1, 1932, U.S. Weather Bureau gages at different datums. Oct. 1-28, 1932, staff gage at datum 27.00 ft lower.

Average discharge.--28 years (1932-60), 13,220 cfs (adjusted for storage since 1941).

Extremes.--1932-60: Maximum discharge, about 175,000 cfs Jan. 22, 1959; maximum gage height, 29.60 ft Jan. 21, 1959 (backwater from ice); minimum discharge, 409 cfs July 30, 1934 (gage height, 0.67 ft).
Maximum discharge known, 250,000 cfs Mar. 17, 1865 (gage height, 29.4 ft), from rating curve extended above 125,000 cfs.

Remarks.--Flow regulated by Chautauqua Lake and, since 1940, by Tionesta Creek Reservoir, since 1952 by East Branch Clarion River Reservoir, and since 1924 by Piney Reservoir.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6,428	27,820	28,980	30,830	30,840	31,390	29,330	9,446	9,845	7,664	1,587	1,366	17,860
1952	1,318	10,440	17,640	49,110	24,300	29,300	21,420	22,540	4,694	1,570	1,496	1,642	15,470
1953	1,368	4,746	12,100	14,360	15,810	24,840	19,230	29,260	16,190	2,201	2,786	2,205	12,080
1954	1,366	2,181	8,034	12,140	18,200	25,020	30,900	14,660	8,606	1,947	1,198	1,249	10,240
1955	14,340	8,085	19,200	19,670	15,750	41,390	17,820	6,920	4,678	2,291	2,502	1,208	12,850
1956	9,328	19,020	14,420	4,897	23,090	43,710	35,760	30,220	12,010	12,030	16,030	15,490	19,640
1957	4,749	6,223	21,000	19,050	14,640	17,140	37,990	12,870	6,628	5,238	1,407	1,108	12,310
1958	1,131	2,786	17,620	7,499	5,314	19,240	26,740	18,700	11,960	14,800	7,038	8,941	11,860
1959	5,632	11,440	9,113	28,920	30,220	26,220	26,240	13,990	6,300	4,121	1,993	1,424	13,990
1960	8,254	18,630	26,870	23,110	19,120	12,020	30,920	19,380	12,630	3,403	2,343	1,315	14,800

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.95	4.14	4.27	4.63	4.23	4.73	4.24	1.42	1.44	1.14	0.22	0.20	31.61
1952	.18	1.54	2.67	7.46	3.29	4.43	3.14	3.38	.68	.22	.22	.23	27.44
1953	.18	.70	1.84	2.19	2.16	3.82	2.81	4.52	2.24	.30	.39	.29	21.44
1954	.15	.32	1.23	1.88	2.48	3.80	4.53	2.18	.98	.27	.14	.15	18.11
1955	2.14	1.16	3.02	2.86	2.19	6.24	2.64	1.02	.66	.31	.34	.15	22.73
1956	1.41	2.79	2.16	.72	3.33	6.61	5.23	4.52	1.73	1.79	2.41	2.22	34.92
1957	.69	.88	3.21	2.89	2.02	2.57	5.60	1.81	.91	.77	.20	.15	21.70
1958	.16	.41	2.71	1.10	.71	2.95	3.97	2.79	1.74	2.23	1.04	1.28	21.09
1959	.81	1.66	1.35	4.46	4.05	3.99	3.87	2.05	.91	.58	.24	.17	24.14
1960	1.27	2.76	4.06	3.45	2.69	1.94	4.43	2.94	1.82	.47	.31	.41	26.28

a Adjusted for change in contents in Chautauqua Lake, Tionesta Creek Reservoir, East Branch Clarion River Reservoir since June 1952, and by Piney Reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted a/			Observed	Adjusted a/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	18,940	18,940	33.51
1951	1205	107,000	Dec. 4, 1950	748	17,860	17,860	2.33	31.61	15,040	15,060	26.64
1952	1235	121,000	Jan. 27, 1952	646	15,470	15,470	2.02	27.44	14,540	14,530	25.77
1953	1275	105,000	May 31, 1953	1,080	12,080	12,120	1.58	21.44	11,520	11,540	20.42
1954	1335	67,400	Mar. 2, 1954	687	10,240	10,230	1.33	18.11	12,780	12,850	22.73
1955	1385	107,000	Oct. 16, 1954	790	12,850	12,840	1.67	22.73	12,920	12,850	22.77
1956	1435	152,000	Mar. 9, 1956	1,040	19,640	19,670	2.56	34.92	18,760	18,780	33.34
1957	1505	99,300	Jan. 23, 1957	748	12,310	12,250	1.60	21.70	11,430	11,400	20.20
1958	1555	83,900	July 15, 1958	646	11,860	11,930	1.56	21.09	12,230	12,220	21.63
1959	1625	175,000	Jan. 22, 1959	950	13,690	13,640	1.78	24.14	16,020	16,060	28.41
1960	1705	126,000	Mar. 31, 1960	708	14,800	14,810	1.93	26.28	-	-	-

a Adjusted for change in contents in Chautauqua Lake, Tionesta Creek Reservoir, East Branch Clarion River Reservoir since June 1952, and by Piney Reservoir.

b About.

325. Redbank Creek at St. Charles, Pa.

Location.--Lat 40°59'40", long 79°23'40", on left bank 500 ft downstream from industrial railroad bridge at St. Charles, Clarion County, 0.3 mile downstream from Leatherwood Creek, and 3 miles west of New Bethlehem.

Drainage area.--528 sq mi.

Records available.--October 1918 to September 1960. Monthly discharge only for November 1920 to June 1921, published in WSP 1305; figures of daily discharge published in WSP 523 have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Datum of gage is 973.14 ft above mean sea level, adjustment of 1907. Prior to July 10, 1940, chain gage at site 500 ft upstream at datum 3.10 ft higher.

Average discharge.--42 years (1918-60), 853 cfs.

Extremes.--1918-60: Maximum discharge, 35,200 cfs Mar. 18, 1936 (gage height, 18.60 ft, from floodmarks, site and datum then in use), by slope-area measurement of peak flow; minimum observed, 19 cfs Oct. 1, 1918.

Remarks.--Some regulation at low flow by mills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	287	2,053	1,751	2,592	2,666	1,884	2,118	939	446	280	57.7	58.1	1,250
1952	55.4	404	1,074	3,376	1,621	1,878	1,498	2,067	254	64.8	75.9	43.4	1,019
1953	47.0	146	434	802	1,076	1,217	1,630	2,042	1,087	119	156	215	743
1954	102	114	604	794	1,081	1,902	1,472	876	406	196	79.0	140	628
1955	1,346	365	1,853	1,125	1,385	2,431	1,145	369	401	140	101	65.5	894
1956	605	1,080	473	235	2,570	2,181	2,039	2,081	822	1,465	1,498	288	1,273
1957	197	262	1,458	1,107	1,272	1,007	2,498	389	244	132	61.9	115	724
1958	102	201	1,333	573	412	1,441	1,357	1,544	581	1,529	723	661	877
1959	410	681	543	1,685	1,621	1,446	1,431	837	236	286	117	52.3	774
1960	351	1,079	1,544	1,392	1,120	971	1,357	1,591	874	306	112	80.9	898

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.63	4.34	3.82	5.66	5.26	4.11	4.48	2.05	0.94	0.61	0.13	0.12	32.15
1952	.12	.85	2.34	7.37	3.31	3.66	3.17	4.51	.54	.14	.17	.09	26.27
1953	.10	.31	.95	1.75	2.12	2.66	3.45	4.46	2.25	.26	.34	.45	19.10
1954	.22	.24	1.32	1.73	2.13	4.15	3.11	1.48	.86	.43	.17	.30	16.14
1955	2.94	.77	4.05	2.46	2.73	5.31	2.42	.81	.85	.30	.22	.14	23.00
1956	1.32	2.28	1.03	.51	5.25	4.76	4.31	4.54	1.74	3.20	3.27	.61	32.82
1957	.43	.55	3.18	2.42	2.51	2.20	5.28	.85	.52	.29	.14	.24	18.61
1958	.22	.42	2.91	1.25	.81	3.15	2.87	3.37	1.23	3.34	1.58	1.40	22.55
1959	.89	1.44	1.19	3.68	3.20	3.16	3.02	1.83	.50	.62	.28	.11	19.90
1960	.77	2.28	3.37	3.04	2.29	2.12	2.87	3.47	1.85	.67	.25	.17	23.15

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	1,212	31.17	
1951	1205	9,080	Dec. 4, 1950	37	1,250	2.37	32.15	1,038	26.67	
1952	1235	14,000	Jan. 27, 1952	28	1,019	1.93	26.27	943	24.32	
1953	1275	12,700	May 31, 1953	35	743	1.41	19.10	760	19.52	
1954	1355	11,400	Mar. 1, 1954	54	628	1.19	16.14	860	22.12	
1955	1385	13,700	Oct. 16, 1954	32	894	1.69	23.00	773	19.87	
1956	1435	14,300	May 13, 1956	73	1,273	2.41	32.82	1,255	32.35	
1957	1505	9,580	Apr. 6, 1957	38	724	1.37	18.61	700	18.00	
1958	1555	12,900	July 15, 1958	55	877	1.66	22.55	876	22.52	
1959	1625	13,900	Jan. 22, 1959	39	774	1.47	19.90	886	22.80	
1960	1705	9,900	Mar. 31, 1960	56	898	1.70	23.15	-	-	

340. Mahoning Creek at Punxsutawney, Pa.

Location.--Lat 40°56'21", long 79°00'31", on right bank 75 ft downstream from Williams Run, a quarter of a mile west of Punxsutawney, Jefferson County, and 1.9 miles downstream from Sawmill Run.

Drainage area.--158 sq mi.

Records available.--October 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,206.14 ft above mean sea level (Corps of Engineers bench mark). Prior to Oct. 1, 1946, at site 2.9 miles upstream at datum 13.30 ft higher.

Average discharge.--22 years (1938-60), 268 cfs.

Extremes.--1938-60: Maximum discharge, 7,370 cfs July 15, 1958 (gage height, 10.89 ft), from rating curve extended above 4,300 cfs by logarithmic plotting; minimum, 2.6 cfs Sept. 26, 1939.

Maximum stage known, 15.6 ft Mar. 18, 1936, from floodmark, site and datum in use 1938-46 (discharge, 12,500 cfs, from rating curve extended above 4,300 cfs by logarithmic plotting).

Remarks.--Diurnal fluctuation at low flow by mine pumpage into stream above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	75.6	544	552	857	736	551	675	286	102	86.9	32.5	32.9	375
1952	24.3	115	361	1,025	428	521	470	593	110	56.1	32.8	20.3	312
1953	20.1	40.0	121	247	328	397	476	722	445	61.5	62.0	39.9	246
1954	30.1	27.9	95.2	188	299	622	421	219	208	70.8	38.4	39.2	187
1955	307	178	608	337	424	697	308	119	113	37.3	32.8	26.6	266
1956	247	286	153	77.6	868	699	638	700	266	505	670	101	433
1957	81.8	105	519	365	409	288	854	176	85.7	41.1	24.4	24.8	246
1958	27.2	45.1	321	206	164	436	403	525	205	675	311	249	299
1959	144	241	182	600	509	432	545	340	98.4	74.3	44.9	20.0	268
1960	205	350	448	402	344	387	404	579	153	86.3	35.8	36.8	286

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.55	3.84	4.03	6.25	4.85	4.02	4.77	2.09	0.72	0.63	0.24	0.23	32.22
1952	.18	.81	2.63	7.48	2.92	3.80	3.32	4.32	.77	.26	.24	.14	26.87
1953	.15	.28	.88	1.80	2.16	2.89	3.56	5.26	3.13	.45	.45	.28	21.09
1954	.22	.20	.69	1.37	1.97	4.54	2.97	1.59	1.47	.52	.28	.28	16.10
1955	2.24	1.25	4.44	2.46	2.79	5.09	2.17	.87	.80	.27	.24	.19	22.81
1956	1.80	2.02	1.12	.57	5.92	5.10	4.50	5.11	1.87	3.69	4.89	.71	37.30
1957	.60	.74	3.78	2.66	2.69	2.10	6.03	1.28	.61	.30	.18	.18	21.15
1958	.20	.32	2.34	1.50	1.08	3.18	2.85	3.83	1.45	4.92	2.27	1.76	25.70
1959	1.05	1.70	1.33	4.38	3.35	3.15	3.85	2.48	.69	.54	.33	.14	22.99
1960	1.49	2.47	3.27	2.93	2.35	2.82	2.85	4.23	1.08	.63	.26	.26	24.64

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	350	30.09	
1951	1205	3,560	Jan. 4, 1951	24	375	2.37	32.22	319	27.42	
1952	1235	6,490	Jan. 27, 1952	16	312	1.97	26.87	285	24.56	
1953	1275	5,790	May 31, 1953	16	246	1.56	21.09	243	20.89	
1954	1335	5,190	Mar. 1, 1954	22	187	1.18	16.10	267	22.92	
1955	1385	3,830	Oct. 16, 1954	16	266	1.68	22.81	231	19.82	
1956	1435	6,290	May 13, 1956	27	433	2.74	37.30	435	37.48	
1957	1505	3,560	Apr. 6, 1957	17	246	1.56	21.15	220	18.89	
1958	1555	7,370	July 15, 1958	19	299	1.89	25.70	313	26.92	
1959	1625	6,290	Jan. 22, 1959	15	268	1.70	22.99	304	26.14	
1960	1705	4,400	Mar. 30, 1960	18	286	1.81	24.64	-	-	

MAHONING CREEK BASIN

345. Little Mahoning Creek at McCormick, Pa.

Location.--Lat 40°50'10", long 79°06'35", on left bank 200 ft downstream from highway bridge at McCormick, Indiana County, 1 mile west of Georgeville, 1.7 miles upstream from Ross Run, and 4 miles southeast of Smicksburg.

Drainage area.--87.4 sq mi.

Records available.--October 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,164.88 ft above mean sea level (Corps of Engineers bench mark). Prior to May 10, 1940, chain gage at site 200 ft upstream at same datum.

Average discharge.--21 years (1939-60), 151 cfs.

Extremes.--1939-60: Maximum discharge, 5,300 cfs Jan. 27, 1952 (gage height, 11.42 ft); maximum gage height, 13.86 ft Jan. 21, 1959 (ice jam); minimum discharge, 0.3 cfs Sept. 28, 1959; minimum gage height, 1.53 ft Aug. 26-28, 1949.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	45.5	367	303	509	424	293	391	154	120	70.8	10.7	7.43	223
1952	6.29	99.4	238	589	205	277	257	357	29.8	9.60	10.7	2.35	172
1953	3.71	14.7	75.5	186	192	212	230	329	220	23.9	69.4	16.4	131
1954	11.1	11.6	68.3	170	165	349	216	109	60.0	20.3	79.7	22.1	107
1955	251	89.2	381	149	297	355	162	40.5	76.8	10.6	13.2	18.4	153
1956	132	166	68.8	55.4	609	380	342	358	115	414	203	44.0	240
1957	41.3	30.2	263	205	218	135	448	77.2	30.4	13.9	3.85	8.04	122
1958	12.6	31.2	211	126	97.5	274	188	242	36.7	165	294	98.8	149
1959	46.7	105	101	305	288	224	284	184	28.6	20.9	16.0	3.84	131
1960	133	191	279	227	178	248	178	291	99.1	26.6	13.0	50.0	160

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.60	4.69	4.00	6.72	5.05	3.88	4.99	2.04	1.53	0.93	0.14	0.09	34.64
1952	.08	1.27	3.12	7.50	2.54	3.65	3.28	4.71	.38	.13	.14	.03	26.83
1953	.05	.19	1.00	2.46	2.29	2.79	2.94	4.34	2.81	.31	.91	.21	20.30
1954	.15	.15	.90	2.24	1.97	4.61	2.76	1.44	.77	.27	1.05	.28	16.59
1955	3.31	1.14	5.02	1.97	3.54	4.69	2.07	.53	.98	.14	.17	.23	23.79
1956	1.74	2.12	.91	.73	7.52	5.01	4.37	4.72	1.47	5.47	2.68	.56	37.30
1957	.54	.39	3.47	2.70	2.60	1.78	5.73	1.02	.39	.18	.05	.10	18.95
1958	.17	.40	2.79	1.66	1.16	3.62	2.41	3.19	.47	2.18	3.88	1.26	23.19
1959	.62	1.32	1.33	4.03	3.43	2.96	3.63	2.16	.37	.28	.21	.05	20.39
1960	1.76	2.44	3.68	2.99	2.20	3.27	2.28	3.84	1.27	.35	.17	.64	24.89

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	201	31.21
1951	1205	3,530	Nov. 5, 1950	2.9	223	2.55	34.64	192	29.82
1952	1235	5,300	Jan. 27, 1952	.6	172	1.97	26.83	151	23.60
1953	1275	4,260	May 31, 1953	1.3	131	1.50	20.30	131	20.26
1954	1335	3,550	Mar. 1, 1954	2.8	107	1.22	16.59	160	24.86
1955	1385	5,180	Oct. 16, 1954	1.2	153	1.75	23.79	123	19.09
1956	1435	3,950	Feb. 25, 1956	15	240	2.75	37.30	237	36.93
1957	1505	2,930	Jan. 23, 1957	1.2	122	1.40	18.95	115	17.91
1958	1555	1,960	Aug. 3, 1958	3.8	149	1.70	23.19	149	23.10
1959	1625	4,260	Jan. 22, 1959	.4	131	1.50	20.39	161	25.00
1960	1705	3,190	Mar. 30, 1960	3.5	160	1.83	24.89	-	-

355. Mahoning Creek Reservoir at Mahoning Creek Dam, Pa.

Location.--Lat 40°55'18", long 79°16'41", at control house at Mahoning Creek Dam on Mahoning Creek, Armstrong County, 0.7 mile upstream from Camp Run, 1.5 miles south of Eddyville, and 3.0 miles upstream from Pine Run.

Drainage area.--340 sq mi.

Records available.--June 1941 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of Corps of Engineers, which is 0.64 ft above mean sea level, datum of 1929.

Extremes.--1941-60: Maximum contents, 59,890 acre-ft Mar. 8, 1945 (elevation, 1,555.54 ft); minimum, 330 acre-ft July 2, 3, 1944 (elevation, 1,026.80 ft).

Remarks.--Reservoir is formed by a concrete dam; storage began during construction sometime prior to June 15, 1941. Capacity, 74,100 acre-ft between elevations 1,015.00 ft (sill of outlet gates) and 1,162.00 ft (full pool); dead storage, 100 acre-ft. Minimum pool elevation, 1,075.00 ft (capacity, 4,480 acre-ft). Reservoir is used for flood control. Figures given herein represent total contents.

Cooperation.--Records furnished by Corps of Engineers.

Water year	Contents, in acre-feet, on last day of month											
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	5,121	4,887	5,455	6,064	6,489	14,792	14,388	5,091	5,129	4,807	5,017	5,121
1952	5,045	5,078	10,670	17,804	5,212	5,332	5,277	5,840	5,154	4,940	5,049	4,939
1953	4,970	4,844	5,116	5,948	5,603	6,162	5,507	21,054	4,956	5,168	5,276	4,821
1954	5,141	4,655	4,735	6,951	6,214	11,191	7,201	5,293	5,061	4,974	4,722	4,904
1955	5,057	5,918	27,390	4,776	7,340	5,402	10,749	4,884	4,865	4,778	5,318	5,542
1956	5,460	4,972	5,061	7,984	24,168	18,659	5,806	5,830	5,059	5,536	5,200	5,095
1957	5,122	5,028	5,536	6,319	5,622	6,082	6,487	4,884	5,898	5,053	5,066	4,778
1958	4,816	4,708	6,292	5,148	10,755	5,856	8,956	4,823	4,898	6,199	5,605	7,183
1959	5,000	5,008	5,220	6,556	5,437	6,000	19,608	4,915	5,289	5,402	5,472	4,934
1960	5,590	13,380	10,300	5,520	5,070	41,300	5,020	5,960	4,960	5,420	4,900	4,790

360. Mahoning Creek at Mahoning Creek Dam, Pa.

Location.--Lat 40°55'40", long 79°17'30", on left bank at downstream side of highway bridge at McCrea Furnace, three-quarters of a mile downstream from Mahoning Creek Dam, Armstrong County, 1 mile southwest of Eddyville, and 2 miles upstream from Pine Run.

Drainage area.--344 sq mi.

Records available.--August 1938 to September 1960. Monthly discharge only for August 1938, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,003.39 ft above mean sea level (Corps of Engineers bench mark). Prior to Feb. 1, 1940, chain gage at same site and datum.

Average discharge.--22 years (1938-60), 590 cfs (adjusted for storage since June 1941).

Extremes.--1938-60: Maximum discharge, 10,400 cfs Mar. 8, 1942 (gage height, 8.10 ft); minimum, 2.5 cfs Oct. 13, 1947; minimum daily, 8.8 cfs Sept. 19-26, 1959.

Remarks.--Flow completely regulated since 1941 by Mahoning Creek Reservoir (see preceding station).

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	143	1,227	1,185	1,933	1,622	1,018	1,547	796	349	212	50.8	47.9	858
1952	37.9	307	660	2,216	1,132	1,082	953	1,290	198	64.2	61.3	29.1	670
1953	27.4	73.9	270	608	754	807	1,009	1,152	1,204	121	216	98.2	526
1954	53.4	63.6	263	485	666	1,253	973	498	362	114	148	76.5	411
1955	803	338	945	1,049	988	1,462	558	316	252	59.4	62.0	56.7	575
1956	521	642	288	124	1,826	1,532	1,535	1,404	582	1,275	1,154	182	919
1957	156	156	1,044	754	904	600	1,798	384	183	107	32.9	49.6	510
1958	54.8	117	767	478	284	1,093	779	1,156	317	1,152	970	491	643
1959	301	492	413	1,294	1,144	930	935	941	196	134	83.8	39.2	572
1960	402	589	1,128	963	743	247	1,438	1,136	360	153	86.6	122	613

Monthly and yearly runoff, in inches (adjusted) ^a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.48	3.97	4.00	6.51	4.94	3.86	5.00	2.17	1.14	0.69	0.18	0.16	33.10
1952	.12	1.00	2.51	7.82	2.86	3.63	3.09	4.36	.60	.20	.21	.09	26.49
1953	.09	.23	.92	2.09	2.26	2.73	3.24	4.70	3.02	.42	.73	.29	20.72
1954	.20	.18	.88	1.74	1.98	4.47	2.93	1.57	1.16	.38	.48	.26	16.23
1955	2.70	1.14	4.33	2.28	3.13	4.87	2.10	.74	.82	.19	.24	.20	22.74
1956	1.74	2.05	.97	.58	6.60	4.83	4.27	4.70	1.84	4.30	3.85	.58	36.31
1957	.52	.50	3.53	2.57	2.70	2.04	5.86	1.20	.65	.31	.11	.15	20.14
1958	.19	.37	2.66	1.53	1.17	3.39	2.70	3.65	1.03	3.93	3.22	1.68	25.52
1959	.89	1.60	1.40	4.42	3.41	3.15	3.77	2.35	.65	.46	.28	.10	22.48
1960	1.38	2.33	3.61	2.96	2.31	2.80	2.69	3.86	1.11	.54	.26	.39	24.24

^a Adjusted for change in contents in Mahoning Creek Reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30											Calendar year		
		Observed					Adjusted ^a /						Observed		Adjusted ^a /
		Momentary maximum		Minimum day	Mean	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date												
1950	-	-	-	-	-	-	-	-	-	-	-	-	753	752	29.65
1951	1205	7,690	Jan. 6, 1951	40	838	838	2.44	33.10	709	716	28.28	28.28	709	716	28.28
1952	1235	8,280	Jan. 30, 1952	17	670	670	1.95	26.49	617	609	24.10	24.10	617	609	24.10
1953	1275	7,200	June 2, 1953	18	526	526	1.53	20.72	527	526	20.74	20.74	527	526	20.74
1954	1335	5,360	Mar. 3, 1954	18	411	411	1.19	16.23	556	586	23.14	23.14	556	586	23.14
1955	1385	4,060	Feb. 25, 1955	21	575	575	1.67	22.74	521	490	19.33	19.33	521	490	19.33
1956	1435	3,860	(b)	88	919	918	2.67	36.31	912	913	36.10	36.10	912	913	36.10
1957	1505	5,840	Apr. 10, 1957	17	510	510	1.48	20.14	475	476	18.81	18.81	475	476	18.81
1958	1555	5,130	May 9, 1958	18	643	646	1.88	25.52	665	664	26.19	26.19	665	664	26.19
1959	1625	3,960	Jan. 24, 1959	8.8	572	569	1.65	22.48	650	657	25.91	25.91	650	657	25.91
1960	1705	5,600	Apr. 6, 1960	20	613	613	1.78	24.24	-	-	-	-	-	-	-

^a Adjusted for change in contents in Mahoning Creek Reservoir.

^b Apr. 11, 12, May 16, 17, 1956.

365. Allegheny River at Kittanning, Pa.

Location.--Lat 40°49'15", long 79°31'55", on right bank 600 ft upstream from dam at lock 7 at Kittanning, Armstrong County, 5½ miles upstream from Crooked Creek, 10 miles downstream from Mahoning Creek, and at mile 45.7.

Drainage area.--8,973 sq mi.

Records available.--August 1904 to September 1928, October 1934 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder and concrete dam control. Datum of gage is 771.32 ft above mean sea level, adjustment of 1912. Prior to Sept. 30, 1928, chain gage at site 4,000 ft downstream at different datum. Oct. 1, 1934, to Apr. 19, 1939, staff gage at present site and datum.

Average discharge.--50 years (1904-28, 1934-60), 15,730 cfs (adjusted for storage since 1941).

Extremes.--1904-28, 1934-60: Maximum discharge, 269,000 cfs Mar. 26, 1913 (gage height, 30.7 ft, from floodmark, site and datum then in use); minimum observed, 570 cfs Sept. 15-17, 1913.

Remarks.--Flow regulated by Chautauqua Lake and since 1940 by Tionesta Creek, since 1952 by East Branch Clarion River, since 1924 by Piney, and since 1941 by Mahoning Creek Reservoirs. Records of chemical analyses and water temperatures for the periods October 1944 to June 1953 and October 1956 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6,710	50,620	32,330	36,800	36,210	35,100	34,430	12,120	11,180	8,435	1,721	1,605	20,490
1952	1,442	11,190	19,420	55,810	27,780	32,550	24,660	26,760	5,500	1,778	1,746	1,809	17,550
1953	1,593	4,949	12,750	16,210	18,120	27,020	22,710	32,860	19,600	2,577	3,350	2,528	13,670
1954	1,564	2,353	8,844	13,260	20,600	28,840	34,120	16,230	7,806	2,274	1,471	1,586	11,510
1955	17,420	8,737	22,120	22,290	18,820	45,880	20,230	8,158	5,649	2,530	2,667	1,312	14,680
1956	10,180	20,500	14,960	5,561	28,470	48,240	39,870	34,300	14,270	15,240	18,970	15,420	22,130
1957	5,102	6,346	24,060	21,340	17,850	19,780	44,370	14,520	6,862	5,863	1,542	1,370	14,040
1958	1,399	3,090	20,820	8,864	6,372	23,350	30,270	23,370	13,210	18,370	9,565	10,620	14,170
1959	6,374	12,950	10,180	33,760	37,040	30,800	30,050	16,920	6,874	4,788	2,272	1,522	15,990
1960	9,101	20,700	30,550	26,810	21,860	13,360	34,780	23,560	15,030	4,296	2,756	1,678	17,000

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.85	3.89	4.08	4.73	4.24	4.54	4.26	1.53	1.39	1.07	0.21	0.20	30.99
1952	.17	1.41	2.52	7.25	3.21	4.20	3.08	3.44	.68	.22	.22	.22	26.62
1953	.18	.62	1.67	2.11	2.10	3.54	2.83	4.36	2.31	.31	.41	.29	20.72
1954	.15	.29	1.17	1.75	2.40	3.76	4.28	2.06	.97	.27	.16	.17	17.39
1955	2.24	1.08	3.00	2.73	2.23	5.90	2.57	1.02	.68	.29	.32	.14	22.20
1956	1.31	2.57	1.91	.71	3.54	6.21	4.95	4.38	1.76	1.94	2.44	1.89	33.61
1957	.63	.76	3.14	2.77	2.09	2.55	5.58	1.75	.81	.73	.19	.16	21.16
1958	.17	.39	2.72	1.11	.74	3.04	3.84	2.99	1.65	2.37	1.21	1.32	21.55
1959	.78	1.61	1.29	4.44	4.25	4.00	3.82	2.10	.85	.59	.24	.15	24.12
1960	1.19	2.63	3.94	5.41	2.62	1.90	4.18	3.06	1.85	.52	.32	.17	25.79

a Adjusted for change in contents in Chautauqua Lake, Tionesta Creek and East Branch Clarion River Reservoirs since June 1952, and Piney and Mahoning Creek Reservoirs.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30									Calendar year		
		Observed					Adjusted a/				Observed	Adjusted a/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches			Mean	Mean	Runoff in inches
		Discharge	Date										
1950	-	-	-	-	-	-	-	-	-	-	21,180	21,180	32.03
1951	1205	126,000	Jan. 4, 1951	990	20,490	20,490	2.28	30.99	17,350	17,370	26.27		
1952	1235	144,000	Jan. 27, 1952	810	17,550	17,550	1.96	26.62	16,490	16,470	24.98		
1953	1275	123,000	May 31, 1953	1,180	13,670	13,710	1.53	20.72	13,120	13,140	19.85		
1954	1355	78,000	Jan. 28, 1954	900	11,510	11,500	1.28	17.39	14,510	14,610	22.12		
1955	1385	128,000	Oct. 16, 1954	750	14,680	14,670	1.63	22.20	14,420	14,320	21.67		
1956	1435	167,000	Mar. 9, 1956	1,280	22,130	22,160	2.47	33.61	21,310	21,330	32.35		
1957	1505	105,000	Jan. 24, 1957	750	14,040	13,980	1.56	21.16	13,190	13,160	19.31		
1958	1555	94,000	July 15, 1958	840	14,170	14,240	1.59	21.55	14,500	14,490	21.95		
1959	1625	198,000	Jan. 22, 1959	840	15,990	15,940	1.78	24.12	18,590	18,640	28.20		
1960	1705	144,000	Apr. 1, 1960	1,080	17,000	17,000	1.89	25.79	-	-	-	-	-

a Adjusted for change in contents in Chautauqua Lake, Tionesta Creek and East Branch Clarion River Reservoirs since June 1952, and Piney and Mahoning Creek Reservoirs.

CROOKED CREEK BASIN

380. Crooked Creek at Idaho, Pa.

Location--Lat 40°39'15", long 79°21'00", on right bank at downstream side of highway bridge at Idaho, Armstrong County, 1½ miles downstream from Plum Creek and 2½ miles west of Shelocta.

Drainage area--191 sq mi.

Records available--October 1937 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage--Water-stage recorder. Datum of gage is 961.04 ft above mean sea level (Buffalo, Rochester & Pittsburg RR. bench mark).

Average discharge--23 years (1937-60), 289 cfs.

Extremes--1937-60: Maximum discharge, 12,400 cfs Oct. 16, 1954 (gage height, 15.12 ft), from rating curve extended above 6,100 cfs on basis of slope-area measurement of peak flow at site 1.2 miles below gage, adjusted for drainage-area ratio; minimum, 2.4 cfs Oct. 8, 1939.

Maximum stage known, 18.6 ft in March 1936, from floodmark (discharge, 19,400 cfs, from rating curve extended above 6,100 cfs on basis of slope-area measurement at gage height 15.12 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	86.1	619	774	969	856	583	698	217	352	221	33.0	27.0	448
1952	16.9	161	447	1,000	411	530	482	607	62.6	22.4	21.2	6.07	315
1953	7.15	28.0	124	357	328	380	438	625	387	119	108	47.6	245
1954	23.0	23.8	124	294	263	621	399	216	86.6	42.1	267	120	207
1955	839	150	629	292	636	541	301	86.8	109	38.7	80.8	46.0	321
1956	340	364	128	129	1,260	785	698	608	346	987	427	93.1	511
1957	62.0	30.6	424	374	486	322	970	98.1	47.4	56.2	32.1	26.7	240
1958	16.2	43.3	385	249	272	478	272	493	43.3	235	407	189	258
1959	74.4	161	240	567	558	433	475	234	69.4	35.5	39.1	13.6	240
1960	230	357	521	443	360	453	338	575	338	52.5	30.3	101	317

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.52	3.62	4.67	5.85	4.56	3.52	4.08	1.31	2.05	1.33	0.20	0.16	31.87
1952	.10	.94	2.70	6.03	2.32	3.20	2.82	3.67	.37	.13	.13	.04	22.45
1953	.04	.16	.75	2.15	1.79	2.30	2.56	3.77	2.26	.72	.65	.28	17.43
1954	.14	.14	.75	1.77	1.43	3.75	2.33	1.30	.51	.25	1.61	.70	14.68
1955	5.07	.88	3.80	1.76	3.47	3.95	1.76	.52	.64	.23	.49	.27	22.84
1956	2.05	2.13	.77	.78	7.11	4.74	4.08	3.67	2.02	5.96	2.58	.54	36.43
1957	.37	.18	2.56	2.26	2.65	1.94	5.67	.59	.28	.34	.07	.16	17.07
1958	.10	.25	2.32	1.50	1.49	2.89	1.59	2.97	.25	1.41	2.46	1.10	18.33
1959	.45	.94	1.45	3.42	3.04	2.61	2.78	1.42	.41	.20	.24	.08	17.04
1960	1.39	2.08	3.14	2.67	2.03	2.73	1.97	3.47	1.97	.32	.18	.59	22.54

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	380	27.00
1951	1205	6,140	Dec. 4, 1950	13	448	2.35	31.87	377	26.80
1952	1235	8,030	Jan. 27, 1952	4.6	315	1.65	22.45	276	19.66
1953	1275	4,610	May 31, 1953	4.9	245	1.28	17.43	246	17.51
1954	1335	4,610	Mar. 1, 1954	12	207	1.08	14.68	329	23.40
1955	1385	12,400	Oct. 16, 1954	6.2	321	1.68	22.84	254	18.04
1956	1435	6,200	July 16, 1956	21	511	2.68	36.43	485	34.59
1957	1505	6,300	Apr. 5, 1957	6.5	240	1.26	17.07	234	16.63
1958	1555	3,540	July 23, 1958	6.1	258	1.35	18.33	260	18.50
1959	1625	5,240	Jan. 22, 1959	7.5	240	1.26	17.04	293	20.81
1960	1705	4,610	Mar. 30, 1960	12	317	1.66	22.54	-	-

385. Crooked Creek Reservoir at Crooked Creek Dam, Pa.

Location.--Lat 40°42'50", long 79°30'30", at control tower at Crooked Creek Dam on Crooked Creek, Armstrong County, 4 miles south of Ford City and 7 miles upstream from mouth.

Drainage area.--277 sq mi.

Records available.--May 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of Corps of Engineers, which is 2.07 ft below mean sea level, datum of 1929.

Extremes.--1940-60: 58,020 acre-ft Apr. 16, 1948 (elevation, 899.02 ft); minimum, 1,730 acre-ft Aug. 17, 1940 (elevation, 830.39 ft).

Remarks.--Reservoir is formed by an earthfill dam, rock faced; storage began in May 1940. Capacity, 93,900 acre-ft between elevations 809.00 ft (sill of outlet gates) and 920.00 ft (full pool). Minimum pool elevation, 840.00 ft (capacity, 4,510 acre-ft). Reservoir is used for flood control. Figures given herein represent total contents.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	5,870	5,662	5,758	5,402	5,906	15,224	10,311	6,059	6,215	5,882	5,349	5,670
1952	5,425	5,826	9,385	19,478	5,850	6,089	5,478	5,486	5,766	5,600	6,240	5,139
1953	4,423	5,906	5,261	6,767	5,577	5,978	5,258	15,750	6,286	6,236	5,622	5,132
1954	5,261	5,512	5,344	7,410	5,810	9,254	6,395	5,341	5,814	6,299	6,450	5,035
1955	4,910	6,307	18,115	5,261	5,746	5,778	10,243	5,646	5,106	5,834	5,766	7,050
1956	5,702	6,274	5,217	12,588	11,458	13,370	6,525	5,738	6,164	5,994	5,337	5,569
1957	5,600	5,181	6,173	7,530	5,994	7,327	6,064	5,246	6,064	5,250	4,876	5,702
1958	5,750	4,902	7,102	5,150	14,908	5,842	8,252	5,250	5,436	6,043	5,353	6,582
1959	5,220	4,902	5,039	7,440	4,880	5,706	17,316	5,220	4,976	6,416	6,206	4,991
1960	5,190	12,240	9,590	5,520	5,290	32,190	6,380	5,900	5,550	5,530	5,640	5,380

CROOKED CREEK BASIN

390. Crooked Creek at Crooked Creek Dam, Pa.

Location.--Lat 40°43'10", long 79°30'45", on right bank a quarter of a mile downstream from Crooked Creek Dam, Armstrong County, 3½ miles south of Ford City, and 6½ miles upstream from mouth.

Drainage area.--278 sq mi.

Records available.--October 1909 to September 1960. Published as "at Hileman's Farm" 1910-29, and as "near Ford City" 1930-39. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 799.51 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to Feb. 3, 1910, staff gage and Feb. 3, 1910, to July 31, 1933, chain gage, at site 2 miles downstream at different datums. July 31, 1933, to Dec. 5, 1939, chain gage at site 1½ miles downstream at different datum.

Average discharge.--51 years (1909-60), 428 cfs (adjusted for storage since May 1940).

Extremes.--1909-60: Maximum discharge, 21,000 cfs Mar. 18, 1936 (gage height, 17.86 ft, from floodmark, site and datum then in use), from rating curve extended above 8,000 cfs on basis of contracted-opening measurement of peak flow; minimum observed, 0.1 cfs Sept. 8, 11, 20, 25, 26, 1932.

Remarks.--Flow completely regulated since 1940 by Crooked Creek Reservoir (see preceding station).

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	87.2	859	1,157	1,374	1,148	678	1,088	394	563	285	44.7	23.5	638
1952	23.0	227	578	1,514	931	793	696	847	79.2	27.3	26.5	26.4	464
1953	18.9	15.5	186	505	493	551	645	732	668	217	130	77.6	359
1954	26.5	26.0	179	399	436	849	655	336	104	44.9	364	195	301
1955	1,333	171	713	627	989	980	384	192	194	43.6	168	43.0	485
1956	481	533	183	69.3	1,983	1,127	1,164	885	550	1,238	610	119	740
1957	99.5	55.5	607	541	739	487	1,491	156	48.1	81.5	16.9	15.3	358
1958	25.0	85.7	552	411	263	855	385	788	60.4	404	695	243	401
1959	121	223	337	1770	876	628	494	541	91.9	28.3	51.0	33.1	347
1960	312	373	791	717	551	261	359	800	506	94.4	36.8	121	459

† Corrected.

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.37	3.44	4.81	5.67	4.33	3.45	4.04	1.35	2.28	1.16	0.15	0.12	31.17
1952	.08	.94	2.64	6.13	2.70	3.31	2.76	3.52	.34	.10	.15	.03	22.70
1953	.03	.09	.74	2.20	1.77	2.32	2.54	3.75	2.12	.90	.75	.28	17.49
1954	.12	.12	.73	1.80	1.52	3.76	2.43	1.33	.45	.22	1.52	.69	14.69
1955	5.52	.78	3.76	1.73	3.74	4.07	1.84	.49	.74	.23	.69	.26	23.85
1956	1.90	2.18	.69	.78	7.61	4.81	4.21	3.62	2.23	5.12	2.48	.49	36.12
1957	.42	.20	2.58	2.34	2.67	2.11	5.90	.59	.25	.28	.04	.12	17.50
1958	.11	.29	2.44	1.57	1.65	2.94	1.71	3.07	.25	1.72	2.84	1.06	19.65
1959	.41	.87	1.41	3.35	3.11	2.66	2.77	1.43	.35	.21	.20	.05	16.82
1960	1.30	1.97	3.10	2.70	2.12	2.89	2.11	3.29	2.01	.39	.16	.47	22.51

a Adjusted for change in contents in Crooked Creek Reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year			
		Observed				Adjusted a/			Observed		Adjusted a/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean
		Discharge	Date									
1950	-	-	-	-	-	-	-	-	-	561	560	27.35
1951	1205	5,760	Dec. 9, 1950	22	638	638	2.29	31.17	531	536	26.21	27.35
1952	1235	5,640	Jan. 30, 1952	21	464	463	1.67	22.70	413	407	19.90	19.90
1953	1275	3,820	June 2, 1953	9.4	359	359	1.29	17.49	360	360	17.60	17.60
1954	1335	3,820	Mar. 3, 1954	4.4	301	301	1.08	14.69	469	487	23.78	23.78
1955	1395	4,900	Oct. 18, 1954	5.2	485	488	1.76	23.85	398	380	18.56	18.56
1956	1435	4,270	Feb. 8, 1956	36	740	738	2.65	36.12	705	706	34.55	34.55
1957	1505	4,540	Apr. 8, 1957	4.3	358	358	1.29	17.50	349	350	17.14	17.14
1958	1555	4,090	May 9, 1958	24	401	402	1.45	19.65	402	399	19.50	19.50
1959	1625	4,180	Jan. 24, 1959	16	347	345	1.24	16.82	414	420	20.50	20.50
1960	1705	4,270	Apr. 3, 1960	5.5	459	458	1.65	22.51	-	-	-	-

a Adjusted for change in contents in Crooked Creek Reservoir.

400. Stony Creek at Ferndale, Pa.

Location.--Lat 40°17'10", long 78°55'10", on right bank 50 ft upstream from highway bridge at Ferndale, Cambria County, 0.4 mile downstream from Bens Creek, 1.2 miles upstream from Johnstown city limits, and 5.2 miles upstream from confluence with Little Conemaugh River.

Drainage area.--451 sq mi.

Records available.--October 1913 to March 1936, October 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1305. Monthly figures adjusted for storage and diversion for October 1918 to September 1921, published in WSP 503 and 523 have been found to be in error and should not be used. Published as "at Johnstown," 1914-36. Gage-height records collected in this vicinity since 1885 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 1,183.84 ft above mean sea level, city of Johnstown datum. Prior to July 24, 1934, chain gage and July 24, 1934, to Mar. 18, 1936, wire-weight gage, at site $3\frac{1}{2}$ miles downstream at different datum. Dec. 8, 1939, to Jan. 30, 1940, chain gage at site 50 ft downstream at present datum.

Average discharge.--22 years (1938-60), 747 cfs (adjusted for storage and diversion).

Extremes.--1913-36, 1938-60: Maximum discharge, 59,000 cfs Mar. 18, 1936 (gage height, 30.26 ft, from high-water mark, site and datum then in use), from rating curve extended above 8,000 cfs on basis of slope-area and contracted-opening measurements of peak flow; minimum observed, 5 cfs Sept. 8, 1929.

Remarks.--Regulation by mine pumpage and by reservoirs and diversion above station; the five largest reservoirs have a combined capacity of 1,721,000,000 cu ft. Figures of daily discharge do not include diversion from Stony Creek intake and Quemahoning Creek Reservoir to plants of Bethlehem Steel Co., and from Mill Creek, Dalton Run, and North Fork Bens Creek Reservoirs for water supply of city of Johnstown.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	317	424	1,255	1,807	1,576	1,195	1,467	513	1,138	355	78.9	32.3	841
1952	23.0	113	477	1,929	811	1,734	1,595	1,466	362	101	156	50.9	737
1953	30.2	426	601	1,074	924	1,676	1,062	1,022	616	150	63.6	29.5	638
1954	19.3	20.4	48.4	230	305	1,084	725	380	200	99.3	162	64.9	280
1955	1,132	545	1,190	772	1,157	2,361	1,012	346	683	429	348	70.8	637
1956	90.6	282	160	203	2,039	1,803	1,699	1,352	414	434	426	199	753
1957	141	153	842	823	1,219	676	1,797	339	250	72.6	26.3	21.7	524
1958	60.7	48.7	580	422	349	1,163	2,130	1,574	156	166	358	126	596
1959	74.1	182	259	818	1,167	1,065	1,228	700	151	55.1	68.2	23.6	478
1960	170	515	909	1,171	762	1,289	1,793	1,443	438	157	64.7	144	738

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.09	1.47	4.07	5.02	4.00	3.63	4.02	1.61	3.32	1.23	0.36	0.19	30.01
1952	.18	.53	1.80	5.80	2.28	4.89	4.37	4.14	1.17	.41	.64	.24	26.45
1953	.19	1.27	2.10	3.61	2.47	4.77	3.03	3.04	1.77	.56	.29	.19	23.29
1954	.14	.14	.28	1.02	1.12	3.62	2.25	1.19	.68	.37	.62	.31	11.74
1955	3.56	1.71	3.44	2.24	3.05	6.44	2.99	1.18	2.04	1.37	1.21	.29	29.52
1956	.39	1.05	.66	.77	6.02	5.10	4.59	3.83	1.32	1.36	1.35	.76	27.20
1957	.53	.51	2.86	2.62	3.16	2.19	4.86	1.20	.94	.36	.17	.14	19.54
1958	.28	.28	2.33	1.57	1.10	3.59	5.72	4.31	.61	.62	1.35	.52	22.28
1959	.32	.72	.96	2.87	3.04	3.14	3.55	2.19	.60	.27	.32	.13	18.11
1960	.65	1.72	2.85	3.39	2.18	3.82	4.73	4.21	1.34	.56	.29	.50	26.24

a Adjusted for diversion from and change in contents in Quemahoning, North Fork Bens Creek, Dalton Run, and Mill Creek Reservoirs, and diversion from Stony Creek intake.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year			
		Observed				Adjusted a/			Observed		Adjusted a/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date									
1950	-	-	-	-	-	-	-	-	-	754	916	27.58
1951	1205	10,900	June 28, 1951	20	841	996	2.21	30.01	725	860	25.89	
1952	1235	13,400	Mar. 11, 1952	20	737	876	1.94	26.45	773	910	27.50	
1953	1275	14,600	May 31, 1953	18	638	774	1.72	23.29	557	674	20.29	
1954	1355	15,100	Mar. 1, 1954	18	280	350	.865	11.74	514	680	19.89	
1955	1385	34,800	Oct. 15, 1954	28	837	980	2.17	29.52	640	762	22.91	
1956	1435	8,480	Mar. 8, 1956	39	753	901	2.00	27.20	804	960	29.00	
1957	1505	5,600	Apr. 25, 1957	15	524	650	1.44	19.54	486	616	18.53	
1958	1555	7,600	Apr. 6, 1958	15	596	740	1.64	22.28	581	711	21.39	
1959	1625	5,010	Feb. 11, 1959	11	478	601	1.33	18.11	569	708	21.33	
1960	1705	16,200	Mar. 31, 1960	17	738	869	1.93	26.24	-	-	-	

a Adjusted for diversion from and change in contents in Quemahoning, North Fork Bens Creek, Dalton Run, and Mill Creek Reservoirs, and diversion from Stony Creek intake.

410. Little Conemaugh River at East Conemaugh, Pa.

Location.--Lat 40°20'35", long 78°53'05", on right bank 100 ft downstream from highway bridge at East Conemaugh, Cambria County, 0.3 mile downstream from Clapboard Run, and 2.5 miles upstream from confluence with Stony Creek.

Drainage area.--183 sq mi.

Records available.--April 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,207.92 ft above mean sea level (Corps of Engineers bench mark). Prior to Feb. 1, 1940, chain gage at site 100 ft upstream at same datum.

Average discharge.--21 years (1939-60), 318 cfs (adjusted for storage and diversion).

Extremes.--1939-60: Maximum discharge, 12,300 cfs Oct. 16, 1954 (gage height, 8.86 ft), from rating curve extended above 4,100 cfs on basis of slope-area measurement of peak flow; minimum observed, 3.6 cfs Sept. 24, 1939.
Maximum discharge known, 28,800 cfs Mar. 17, 18, 1936, by slope-area measurement.

Remarks.--Flow regulated by reservoirs and diversion above station; the two most effective reservoirs have a combined capacity of 245,700,000 cu ft. Figures of daily discharge do not include diversion at South Fork intake to Cambria plant of Bethlehem Steel Co., from Saltlick Run Reservoir to city of Johnstown, and from Wilmore Reservoir (capacity, 137,000,000 cu ft; average diversion, about 2.6 cfs) to Pennsylvania Railroad.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	203	281	673	901	720	597	675	246	502	262	49.8	15.1	425
1952	10.8	63.5	231	862	367	692	679	690	150	56.3	77.0	18.6	326
1953	10.4	202	281	430	379	750	512	335	281	61.1	69.9	20.8	277
1954	7.92	10.2	29.1	164	168	652	402	181	136	41.4	62.8	43.8	158
1955	479	240	588	368	438	1,015	523	159	336	136	135	31.0	371
1956	66.2	186	97.9	90.4	773	725	703	487	148	516	360	69.7	350
1957	61.9	78.2	359	344	437	285	635	141	74.4	38.0	17.2	12.9	209
1958	17.0	23.1	219	158	143	462	730	478	92.9	199	299	88.3	243
1959	49.9	108	129	487	505	478	507	324	75.8	31.4	41.9	33.0	229
1960	95.4	254	381	525	387	530	729	844	240	125	102	104	360

Monthly and yearly runoff, in inches (adjusted) ^{a/}

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.57	1.99	4.48	5.95	4.39	4.10	4.45	1.88	3.35	1.95	0.59	0.33	35.03
1952	.29	.69	1.83	5.75	2.46	4.66	4.43	4.63	.99	.40	.76	.34	27.25
1953	.28	1.50	2.14	3.10	2.46	5.05	13.45	2.44	2.03	.68	.75	.36	24.24
1954	.26	.26	.44	1.40	1.27	4.43	2.74	1.41	1.09	.42	.56	.47	14.75
1955	3.30	1.72	3.95	2.55	2.71	6.65	3.44	1.26	2.33	1.11	1.10	.40	30.52
1956	.66	1.44	.84	.79	4.91	4.84	4.55	3.34	1.16	3.46	2.54	.69	29.22
1957	.62	.68	2.82	2.40	2.74	2.06	4.14	1.18	.70	.47	.31	.28	18.40
1958	.34	.33	1.71	1.20	.98	3.08	4.56	3.09	.66	1.38	1.98	.61	19.92
1959	.38	.73	.91	3.16	2.98	3.12	3.26	2.17	.63	.39	.45	.27	18.43
1960	.63	1.70	2.59	3.45	2.46	3.50	4.64	5.51	1.60	.98	.76	.75	28.57

[†] Corrected.

^a Adjusted for diversion from and change in contents in Saltlick Reservoir and diversion from South Fork intake.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Observed			Adjusted ^{a/}			Observed	Adjusted ^{a/}		
		Momentary maximum		Minimum	Mean		Mean	Per square mile	Runoff in inches		Runoff in inches
		Discharge	Date	day					Mean	Mean	
1950	-	-	-	-	-	-	-	-	-	353	396
1951	1205	5,820	Dec. 8, 1950	8.7	425	472	2.58	35.03	354	402	29.80
1952	1235	5,820	Jan. 27, 1952	7.0	326	367	2.01	27.23	341	381	28.34
1953	1275	4,490	May 31, 1953	6.0	277	327	1.79	24.24	240	288	21.28
1954	1355	9,750	Mar. 1, 1954	5.8	158	199	1.09	14.75	265	305	22.76
1955	1385	12,300	Oct. 16, 1954	11	371	411	2.25	30.52	290	330	24.49
1956	1435	5,810	Feb. 25, 1956	17	350	392	2.14	29.22	367	409	30.40
1957	1505	2,870	Jan. 23, 1957	5.8	209	249	1.36	18.40	185	224	16.66
1958	1555	3,630	Aug. 1, 1958	7.2	243	268	1.46	19.92	245	264	19.56
1959	1625	3,940	Jan. 22, 1959	8.1	229	248	1.36	18.43	266	287	21.33
1960	1705	8,950	May 8, 1960	46	360	384	2.10	28.57	-	-	-

^a Adjusted for diversion from and change in contents in Saltlick Reservoir and diversion from South Fork intake.

415. Conemaugh River at Seward, Pa.

Location.--Lat 40°25'10", long 79°01'40", on left bank at highway bridge on State Highway 56 at Seward, Westmoreland County, 2 miles downstream from Findley Run and 9 miles northwest of Johnstown.

Drainage area.--715 sq mi.

Records available.--May 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,075.64 ft above mean sea level, unadjusted.

Average discharge.--22 years (1938-60), 1,252 cfs (adjusted for storage).

Extremes.--1938-60: Maximum discharge, 54,000 cfs Oct. 16, 1954 (gage height, 19.20 ft); minimum not determined; minimum daily, 105 cfs Dec. 28, 29, 31, 1938.
Maximum stage known, 26.4 ft Mar. 18, 1936, from floodmarks (discharge, 90,000 cfs, by contracted-opening measurement).

Remarks.--Flow regulated by steel mills and reservoirs above station, the nine most effective of which have a combined capacity of 2,130,000,000 cu ft.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	769	1,040	2,407	3,450	3,016	2,324	2,759	1,132	2,235	955	567	271	1,718
1952	233	395	1,002	3,625	1,588	3,011	2,900	2,772	751	317	497	293	1,452
1953	251	825	1,216	2,025	1,829	3,096	2,214	1,844	1,320	457	379	256	1,307
1954	207	191	245	659	717	2,180	1,471	803	588	359	472	370	687
1955	2,208	1,070	2,294	1,529	2,037	4,300	1,973	740	1,351	777	721	318	1,611
1956	392	815	489	519	3,635	3,277	3,203	2,445	955	1,352	1,103	561	1,550
1957	450	477	1,718	1,700	2,338	1,433	3,326	810	649	561	250	218	1,133
1958	271	263	1,213	908	790	2,157	3,421	2,622	474	644	1,014	481	1,192
1959	328	526	656	1,869	2,238	1,989	2,301	1,357	448	249	243	169	1,021
1960	410	1,110	1,782	2,253	1,615	2,176	3,070	2,871	1,016	490	530	482	1,467

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.16	1.65	4.19	5.57	4.38	3.85	4.31	1.75	3.54	1.48	0.40	0.21	32.49
1952	.17	.62	1.87	6.19	2.38	4.91	4.56	4.46	1.18	.45	.89	.26	27.70
1953	.20	1.25	2.16	5.63	2.67	5.06	3.47	3.00	1.96	.61	.46	.24	24.71
1954	.16	.18	.56	1.26	1.19	3.92	2.41	1.27	.88	.46	.73	.47	13.29
1955	3.76	1.67	3.72	2.41	3.02	6.95	3.15	1.13	2.12	1.19	1.12	.51	30.55
1956	.47	1.29	.71	.74	6.04	5.35	5.02	3.94	1.41	2.23	1.73	.81	29.74
1957	.59	.60	3.02	2.82	3.39	2.37	5.21	1.27	1.01	.44	.22	.19	21.13
1958	.31	.31	2.56	1.58	1.15	3.63	5.42	4.19	.68	.98	1.69	.67	22.97
1959	.38	.77	1.02	3.31	3.27	3.21	3.67	2.18	.58	.32	.42	.20	19.33
1960	.66	1.82	2.96	3.63	2.42	3.59	4.73	4.73	1.52	.71	.38	.63	27.79

a Adjusted for change in contents in Quemahoning, North Fork Bens Creek, Dalton Run, Mill Creek, Saltlick Run, Hincokston Run, and Laurel Run Reservoirs.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted a/			Observed	Adjusted a/	
		Momentary maximum		Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date	day							
1950	-	-	-	-	-	-	-	-	1,514	1,519	28.81
1951	1205	15,500	June 14, 1951	254	1,718	1,712	2.39	32.49	1,500	1,482	28.15
1952	1235	22,300	Jan. 27, 1952	195	1,452	1,456	2.04	27.70	1,507	1,506	28.65
1953	1275	22,300	May 31, 1953	176	1,307	1,301	1.82	24.71	1,168	1,147	21.80
1954	1335	28,500	Mar. 1, 1954	166	1,687	1,699	.978	15.29	1,103	1,144	21.74
1955	1385	54,000	Oct. 16, 1954	240	1,611	1,608	2.25	30.55	1,263	1,257	23.67
1956	1435	14,300	Mar. 8, 1956	245	1,550	1,561	2.18	29.74	1,632	1,652	31.48
1957	1505	9,720	Jan. 23, 1957	185	1,133	1,113	1.56	21.13	1,058	1,049	19.90
1958	1555	11,700	Apr. 7, 1958	200	1,192	1,209	1.69	22.97	1,169	1,166	22.16
1959	1625	18,200	Jan. 22, 1959	142	1,021	1,018	1.42	19.33	1,174	1,190	22.60
1960	1705	26,300	Mar. 31, 1960	186	1,467	1,459	2.04	27.79	-	-	-

a Adjusted for change in contents in Quemahoning, North Fork Bens Creek, Dalton Run, Mill Creek, Saltlick Run, Hincokston Run, and Laurel Run Reservoirs.

420. Blacklick Creek at Josephine, Pa.

Location.--Lat 40°28'25", long 79°11'00", on right bank on upstream side of old concrete dam at Josephine, Indiana County, 0.9 mile upstream from Two Lick Creek and 5 miles northeast of Blairsville.

Drainage area.--192 sq mi.

Records available.--January 1952 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 975.82 ft above mean sea level, datum of 1912. Prior to Aug. 25, 1953, staff gage at same site and datum.

Average discharge.--8 years (1952-60), 348 cfs.

Extremes.--1952-60: Maximum discharge, 11,900 cfs Oct. 15, 1954 (gage height, 11.35 ft in gage well, 12.67 ft from outside gage), from rating curve extended above 5,500 cfs on basis of computation of peak flow over dam; minimum, 19 cfs Sept. 14, 1952, Nov. 4, 1953; minimum gage height, 3.30 ft Sept. 26, 1953.

Remarks.--Some regulation at low flow by mine pumpage above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	964	434	734	798	820	128	53.5	59.8	36.2	-
1953	30.8	105	257	561	485	760	713	619	314	87.3	77.6	45.4	337
1954	31.5	33.5	106	319	261	658	402	230	343	131	257	131	242
1955	735	318	806	468	705	975	488	145	311	109	136	49.4	436
1956	123	264	145	135	1,202	927	870	594	222	533	406	159	462
1957	102	87.1	534	455	631	334	894	155	122	83.8	54.5	39.0	288
1958	42.3	51.7	359	291	219	610	574	614	95.2	338	581	186	332
1959	87.8	234	233	716	621	478	687	326	86.1	56.3	67.5	35.6	300
1960	102	346	563	584	463	603	566	819	294	97.1	61.5	93.9	383

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	5.91	2.44	4.41	4.64	4.93	0.74	0.32	0.36	0.21	-
1953	0.18	0.61	1.54	3.37	2.63	4.57	4.14	3.72	1.83	.52	.47	.26	23.84
1954	.19	.19	.63	1.91	1.41	3.95	2.34	1.38	1.99	.79	1.54	.76	17.08
1955	4.42	1.85	4.84	2.81	3.82	5.86	2.83	.87	1.81	.66	.81	.29	30.87
1956	.74	1.53	.87	.81	6.75	5.57	5.06	3.57	1.29	3.20	2.44	.92	32.75
1957	.62	.51	3.21	2.73	3.42	2.01	5.19	.93	.71	.50	.33	.23	20.39
1958	.25	.30	2.16	1.75	1.19	3.67	3.33	3.69	.55	2.03	3.49	1.08	23.49
1959	.53	1.36	1.40	4.30	3.37	2.87	3.99	1.96	.50	.34	.41	.21	21.24
1960	.61	2.01	3.58	3.50	2.60	3.62	3.29	4.92	1.71	.58	.37	.55	27.14

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1235	7,510	Jan. 27, 1952	-	-	-	-	371	26.29
1953	1275	7,510	May 31, 1953	22	337	1.76	23.84	319	22.52
1954	1335	7,360	Mar. 1, 1954	25	242	1.26	17.08	355	27.15
1955	1385	11,900	Oct. 15, 1954	33	436	2.27	30.87	324	22.90
1956	1435	9,250	July 16, 1956	38	462	2.41	32.75	479	33.95
1957	1505	3,980	Apr. 4, 1957	32	288	1.50	20.39	265	18.76
1958	1555	4,740	Aug. 1, 1958	31	352	1.73	23.49	340	24.07
1959	1625	6,490	Jan. 22, 1959	24	300	1.56	21.24	339	23.95
1960	1705	7,390	Mar. 30, 1960	30	383	1.99	27.14	-	-

425. Two Lick Creek at Graceton, Pa.

Location.--Lat 40°31'05", long 79°10'15", on right bank three-quarters of a mile upstream from highway bridge on road leading west from Graceton, Indiana County, 1 mile downstream from Tearing Run, 1 1/4 miles upstream from Cherry Run, and 8 miles northeast of Blairsville.

Drainage area.--171 sq mi.

Records available.--September 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 983 ft (by barometer).

Average discharge.--9 years (1951-60), 272 cfs.

Extremes.--1951-60: Maximum discharge, 12,900 cfs Oct. 16, 1954 (gage height, 12.71 ft), from rating curve extended above 4,500 cfs on basis of contracted-opening measurement of peak flow at site 1.6 miles above gage, adjusted to gage site; minimum, 2.0 cfs Sept. 14, 15, 1952 (gage height, 1.27 ft); minimum daily, 8.7 cfs Sept. 14, 1952.

Remarks.--Diurnal fluctuation caused by mine pumpage and by sewage-disposal plant above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	23.5	155	405	811	345	507	527	620	86.8	33.8	34.5	15.9	298
1953	15.4	33.5	119	384	346	456	457	576	251	60.0	40.5	30.5	230
1954	20.9	23.6	94.4	252	220	556	358	212	167	51.5	193	79.5	186
1955	628	201	635	309	594	699	329	99.7	213	60.6	56.6	31.4	321
1956	153	266	132	118	1,093	744	626	479	208	644	377	164	415
1957	91.0	58.2	458	386	493	234	786	103	64.6	62.6	16.9	19.0	229
1958	21.5	30.4	273	241	202	510	300	486	57.3	187	290	122	228
1959	60.7	178	198	568	529	396	540	262	62.9	54.5	63.0	33.2	244
1960	139	305	460	440	332	433	386	609	271	69.9	28.8	101	298

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	0.16	1.01	2.73	5.47	2.18	3.42	3.44	4.18	0.57	0.23	0.23	0.10	23.72
1953	.10	.22	.80	2.59	2.10	3.08	2.98	3.88	1.64	.40	.27	.20	16.26
1954	.14	.15	.64	1.70	1.34	3.75	2.34	1.43	1.09	.35	1.30	.52	14.75
1955	4.23	1.31	4.28	2.08	3.62	4.71	2.15	.87	1.39	.41	.38	.20	25.43
1956	1.03	1.74	.89	.80	6.90	5.01	4.09	3.23	1.36	4.34	2.54	1.07	33.00
1957	.61	.38	3.09	2.60	3.00	1.58	5.13	.70	.42	.42	.11	.12	18.16
1958	.14	.20	1.84	1.63	1.23	3.44	1.96	3.28	.37	1.26	1.96	.79	18.10
1959	.41	1.16	1.34	3.83	3.22	2.67	3.52	1.77	.41	.37	.42	.22	19.34
1960	.94	1.99	3.10	2.96	2.10	2.92	2.52	4.10	1.77	.47	.19	.66	23.72

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1235	-	-	-	-	-	-	-	-
1952	1235	6,600	Jan. 27, 1952	8.7	298	1.74	23.72	263	20.94
1953	1275	5,760	May 31, 1953	9.6	230	1.35	18.26	228	18.07
1954	1355	5,290	Mar. 1, 1954	12	186	1.09	14.75	296	23.64
1955	1385	12,900	Oct. 16, 1954	9.5	321	1.88	25.43	243	19.27
1956	1435	7,900	July 16, 1956	24	415	2.43	33.00	420	33.42
1957	1505	4,740	Apr. 4, 1957	10	229	1.34	18.16	205	16.26
1958	1555	2,840	May 7, 1958	11	228	1.33	18.10	237	18.83
1959	1625	5,180	Jan. 22, 1959	12	244	1.43	19.34	283	22.46
1960	1705	4,740	Mar. 30, 1960	16	298	1.74	23.72	-	-

KISKIMINETAS RIVER BASIN

430. Blacklick Creek at Blacklick, Pa.

Location.--Lat 40°28'25", long 79°12'15", near left bank on downstream side of bridge at Gratton, a quarter of a mile northwest of Blacklick, Indiana County, and three-quarters of a mile downstream from Two Lick Creek.

Drainage area.--390 sq mi, approximately.

Records available.--August 1904 to March 1906, January 1907 to September 1951. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Chain gage. Datum of gage is 945.94 ft above mean sea level (Pennsylvania State highway bench mark). September to Nov. 9, 1905, and Jan. 16 to June 10, 1937, staff gage at same site and datum.

Average discharge.--45 years (1904-5, 1907-51), 671 cfs.

Extremes.--1904-51: Maximum discharge, 51,700 cfs Mar. 18, 1936 (gage height, 15.88 ft, from floodmark), from rating curve extended above 18,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 6 cfs Sept. 12, 16-27, 1908 (gage height, 1.88 ft).

Remarks.--Some regulation at low flow by mills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	303	1,126	1,460	2,157	1,698	1,288	1,897	758	1,019	986	129	70.8	1,070

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.90	3.22	4.32	6.38	4.53	3.81	5.43	2.24	2.92	2.91	0.38	0.20	37.24

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	903	31.42
1951	1205	12,200	July 23, 1951	55	1,070	2.74	37.24	5,803	5,280

435. Conemaugh River Reservoir at Conemaugh River Dam, Pa.

Location.--Lat 40°28'11", long 79°22'07", at face of dam on right bank at Conemaugh River Dam on Conemaugh River, Indiana County, 2 miles upstream from highway bridge at Tunnelton and 7½ miles upstream from Loyalhanna Creek.

Drainage area.--1,351 sq mi.

Records available.--October 1951 to September 1960.

Gage.--Water-stage recorder. Prior to Dec. 18, 1952, staff gage. Datum of gage is at mean sea level, datum of 1929 (Corps of Engineers bench mark).

Extremes.--1951-60: Maximum contents, 183,800 acre-ft Apr. 2, 1960 (elevation, 959.90 ft); minimum, 570 acre-ft Oct. 26, 1952.

Remarks.--Reservoir is formed by concrete gravity dam with earth embankment on the right end. Fully controlled storage began November 1953; partly controlled storage maintained October 1951 to October 1953 when conduits were fully open and reservoir functioned as a detention basin or operations for flood control was made when damaging floods became imminent at downstream points. Capacity, 273,600 acre-ft between elevations 860.00 ft (sill of sluice gates) and 975.00 ft (full pool). Dead storage is 400 acre-ft. Minimum pool elevation, 880.00 ft (capacity, 4,000 acre-ft). Reservoir is used for flood control. Figures given herein represent total contents.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1952	700	780	2,180	1,280	803	1,024	1,106	1,134	645	595	603	605
1953	3,480	2,080	1,936	2,200	2,084	4,620	4,992	39,530	5,308	3,538	3,904	4,333
1954	4,274	4,419	4,926	5,648	5,074	5,193	7,538	4,369	5,330	4,607	5,852	5,049
1955	2,798	1,137	79,040	5,290	8,759	4,695	13,459	5,408	5,814	5,035	5,803	5,280
1956	5,485	4,623	4,992	27,230	30,402	27,848	17,031	5,896	5,667	4,756	6,004	5,471
1957	5,200	4,211	15,416	9,638	9,568	8,378	5,753	6,264	4,468	3,769	3,722	
1958	4,270	4,284	7,000	5,715	28,430	13,365	19,332	5,341	5,240	7,160	5,522	4,684
1959	5,305	4,844	5,508	9,609	5,146	4,958	54,419	4,386	4,654	5,386	6,326	3,596
1960	5,770	16,980	13,350	6,560	5,520	148,930	5,150	7,420	5,780	6,380	4,270	4,950

440. Conemaugh River at Tunnelton, Pa.

Location.--Lat 40°27'15", long 79°23'30", on right bank at downstream side of highway bridge at Tunnelton, Indiana County, 0.9 mile downstream from Boatyard Run, 2 miles downstream from Conemaugh River Dam, 3½ miles southeast of Saltsburg, and 5.5 miles upstream from confluence with Loyalhanna Creek.

Drainage area.--1,358 sq mi.

Records available.--October 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 844.64 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1952, wire-weight gage at same site and datum.

Average discharge.--21 years (1939-60), 2,363 cfs (adjusted for storage).

Extremes.--1939-60: Maximum discharge, 59,200 cfs Mar. 7, 1945 (gage height, 21.0 ft, from graph based on gage readings); minimum, 1 cfs Sept. 10, 1954 (gage height, 1.20 ft); minimum daily, 1 cfs Sept. 10, 1954.

Remarks.--Flow regulated by Conemaugh River Reservoir since 1952 (see preceding station), and by other reservoirs above station, the nine most effective of which have a combined capacity of 2,130,000,000 cu ft. Records of chemical analyses and water temperatures for the period October 1952 to June 1953 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,160	2,810	5,122	6,847	5,786	4,411	5,741	2,607	4,209	2,541	594	393	3,477
1952	325	946	2,648	5,854	3,119	5,070	5,226	5,322	1,176	450	655	371	2,686
1953	278	1,068	1,816	5,805	3,218	5,125	4,243	3,157	2,867	686	570	355	2,242
1954	272	253	528	1,638	1,572	4,113	2,896	1,745	1,462	626	1,182	899	1,415
1955	4,646	1,837	3,266	3,973	4,345	6,966	3,283	1,341	2,229	1,057	1,041	443	2,867
1956	798	1,630	883	634	7,421	6,198	6,028	4,483	1,752	2,952	2,386	1,183	3,009
1957	819	719	3,319	2,874	4,347	2,365	6,171	1,273	928	614	349	292	1,986
1958	350	378	2,077	1,920	1,285	4,240	4,707	4,745	728	1,504	2,947	1,046	2,173
1959	574	1,143	1,418	3,982	4,375	3,468	3,540	3,287	719	404	427	292	1,955
1960	694	1,921	3,548	4,256	2,895	1,531	6,972	5,052	1,998	794	508	772	2,581

Monthly and yearly runoff, in inches (adjusted) ^{a/}

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.95	2.32	4.51	5.82	4.44	3.80	4.72	2.09	3.49	1.95	0.40	0.21	34.70
1952	.18	.78	2.40	5.98	2.47	4.33	4.32	4.52	.95	.34	.50	.20	26.97
1953	.17	.84	1.65	3.25	2.47	4.42	3.50	3.16	1.85	.49	.41	.21	22.42
1954	.14	.15	.44	1.50	1.27	3.70	2.48	1.42	1.19	.48	1.01	.51	14.29
1955	4.01	1.48	3.86	2.32	3.41	5.87	2.86	.99	1.84	.85	.87	.26	28.62
1956	.60	1.54	.72	.80	6.23	5.26	4.81	3.64	1.41	2.51	2.02	.93	30.27
1957	.62	.50	2.97	2.61	3.25	2.04	5.07	1.03	.77	.42	.19	.16	19.63
1958	.24	.26	2.02	1.67	1.29	3.47	3.99	3.82	.56	1.27	2.51	.80	21.90
1959	.42	.91	1.21	3.59	3.29	2.94	3.64	2.10	.53	.31	.39	.17	19.50
1960	.62	1.77	3.01	3.52	2.35	3.32	3.70	4.37	1.58	.64	.33	.58	25.79

^a Adjusted for change in contents in Quemahoning, North Forks Bens Creek, Dalton Run, Mill Creek, Saltlick Run, Hinckston Run, and Laurel Run Reservoirs, and in Conemaugh River Reservoir since October 1951.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year			
		Observed					Adjusted ^{a/}					Observed		Adjusted ^{a/}	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches				
		Discharge	Date												
1950	-	-	-	-	-	-	-	-	-	-	3,006	3,011	30.10		
1951	1205	28,100	Dec. 4, 1950	320	3,477	3,471	2.56	34.70	3,043	3,028	3,028	3,028	30.28		
1952	1235	34,300	Jan. 27, 1952	290	2,686	2,690	1.98	26.97	2,622	2,621	2,627	2,627	26.27		
1953	1275	21,300	June 1, 1953	8.5	2,242	2,242	1.65	22.42	2,065	2,048	2,048	2,048	20.49		
1954	1335	19,000	Mar. 3, 1954	1	1,415	1,428	1.05	14.29	2,149	2,292	2,292	2,292	22.91		
1955	1385	28,400	Oct. 19, 1954	240	2,867	2,864	2.11	28.62	2,321	2,193	2,193	2,193	21.93		
1956	1435	20,900	Mar. 11, 1956	323	3,009	3,020	2.22	30.27	3,143	3,165	3,165	3,165	31.70		
1957	1505	16,500	Apr. 10, 1957	236	1,986	1,964	1.45	19.63	1,813	1,805	1,805	1,805	18.06		
1958	1555	17,400	May 9, 1958	248	2,173	2,192	1.61	21.90	2,199	2,194	2,192	2,192	21.92		
1959	1625	16,200	Jan. 25, 1959	146	1,955	1,950	1.44	19.50	2,210	2,237	2,237	2,237	22.36		
1960	1705	26,600	Apr. 5, 1960	245	2,581	2,574	1.90	25.79	-	-	-	-	-		

^a Adjusted for change in contents in Quemahoning, North Fork Bens Creek, Dalton Run, Mill Creek, Saltlick Run, Hinckston Run, and Laurel Run Reservoirs, and in Conemaugh River Reservoir since October 1951.

KISKIMINETAS RIVER BASIN

450. Loyalhanna Creek at Kingston, Pa.

Location--Lat 40°17'35", long 79°20'25", on right bank 60 ft downstream from bridge on State Highway 680, at Kingston, Westmoreland County, 100 ft downstream from Miller Run, 1.9 miles upstream from Ninemile Run, and 3 miles southeast of Latrobe.

Drainage area--172 sq mi.

Records available--October 1939 to September 1960. Monthly discharge only for October to December 1939, published in WSP 1305.

Gage--Water-stage recorder. Datum of gage is 1,014.16 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Average discharge--21 years (1939-60), 294 cfs (adjusted for storage and diversion).

Extremes--1939-60: Maximum discharge, 29,700 cfs Oct. 15, 1954 (gage height, 14.8 ft, from floodmarks), from rating curve extended above 3,800 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.1 cfs Sept. 4, 1953 (gage height, 1.13 ft); minimum daily, 0.2 cfs Oct. 23, 24, 1953.

Maximum stage known since at least 1918, that of Oct. 15, 1954. Flood of Mar. 17 or 18, 1936, reached a stage of about 14.5 ft, from information by local residents (discharge, 21,000 cfs, from rating curve extended above 8,200 cfs by logarithmic plotting).

Remarks--Flow regulated by Trout Run Reservoir (capacity, 160,000,000 cu ft), and diversion works at Kingston. Figures of daily discharge do not include diversion from reservoir and at Kingston intake to Borough of Latrobe.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	74.3	298	570	736	684	507	740	246	788	199	22.3	12.1	403
1952	5.51	98.2	360	850	392	603	796	779	220	55.2	69.3	12.8	354
1953	14.2	46.7	229	528	347	592	471	490	222	43.9	7.58	12.6	250
1954	2.76	5.09	50.7	196	193	423	420	194	208	38.3	137	51.4	160
1955	689	214	570	298	664	820	370	130	219	84.6	182	25.6	355
1956	65.3	220	116	171	1,036	746	718	641	277	254	293	206	392
1957	86.1	56.2	446	466	573	291	821	129	164	39.2	7.04	4.20	254
1958	15.5	27.5	279	275	278	529	493	534	75.5	189	277	144	260
1959	76.2	125	210	518	564	393	508	292	99.8	23.4	53.7	8.44	237
1960	31.7	203	409	520	405	507	461	487	131	36.5	26.9	39.5	271

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.55	2.06	3.97	5.11	4.29	3.53	4.96	1.73	5.29	1.40	0.18	0.11	35.18
1952	.08	.72	2.56	5.88	2.56	4.19	5.32	5.38	1.51	.42	.53	.13	29.28
1953	.12	.33	1.64	3.72	2.19	4.10	3.17	3.41	1.51	.34	1.10	.13	20.76
1954	.06	.07	.36	1.37	1.22	2.89	2.76	1.34	1.38	.28	.95	.37	13.05
1955	4.69	1.42	3.86	2.03	4.06	5.53	2.44	.91	1.46	.61	1.27	.20	28.48
1956	.48	1.50	.80	1.19	6.55	5.05	4.71	4.35	1.85	1.74	2.01	1.39	31.62
1957	.62	.42	3.06	3.18	3.52	1.99	5.38	.91	1.12	.30	.08	.06	20.64
1958	.15	.22	1.96	1.89	1.73	3.60	3.24	3.62	.52	1.34	1.88	.97	21.12
1959	.55	.86	1.45	3.52	3.46	2.69	3.35	2.01	.67	.19	.42	.10	19.27
1960	.27	1.39	2.91	3.64	2.64	3.47	3.01	3.33	.86	.25	.18	.27	22.22

a Adjusted for change in contents in Trout Run Reservoir and for diversion for water supply for Borough of Latrobe.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30								Calendar year			
		Observed				Adjusted a/				Observed		Adjusted a/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches		
		Discharge	Date										
1950	-	-	-	-	-	-	-	-	358	364	29.47		
1951	1205	10,500	June 28, 1951	2.2	403	410	2.44	33.18	363	370	29.96		
1952	1235	6,280	Jan. 27, 1952	1.2	354	361	2.15	29.28	339	345	28.01		
1953	1275	4,780	May 31, 1953	.3	250	257	1.53	20.76	231	238	19.16		
1954	1335	3,350	Mar. 1, 1954	.2	160	166	.965	13.05	279	286	22.53		
1955	1385	29,700	Oct. 15, 1954	10	355	362	2.10	28.48	264	270	21.29		
1956	1435	4,350	Feb. 25, 1956	18	392	399	2.32	31.62	408	416	32.94		
1957	1505	3,510	June 13, 1957	.8	254	261	1.52	20.64	232	239	18.87		
1958	1555	3,130	Aug. 3, 1958	1.0	260	267	1.55	21.12	268	274	21.65		
1959	1625	4,100	Feb. 10, 1959	1.3	237	244	1.42	19.27	257	266	20.98		
1960	1705	4,700	Mar. 29, 1960	2.5	271	280	1.63	22.22	-	-	-		

a Adjusted for change in contents in Trout Run Reservoir and for diversion for water supply for Borough of Latrobe.

465. Loyalhanna Creek Reservoir at Loyalhanna Creek Dam, Pa.

Location.--Lat 40°27'25", long 79°27'08", at control house at Loyalhanna Creek Dam on Loyalhanna Creek, Westmoreland County, 2 miles south of Saltsburg and 4.7 miles upstream from mouth.

Drainage area.--290 sq mi.

Records available.--June 1942 to September 1960 (fragmentary October 1943 to March 1946).

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

Extremes.--1942-60: Maximum contents, 47,910 acre-ft Apr. 16, 1948 (elevation, 956.82 ft); little or no contents at times.

Remarks.--Reservoir is formed by concrete gravity dam with a gated spillway; storage began in June 1942. Capacity, 95,300 acre-ft between elevations 878.00 ft (sill of outlet gates) and 975.00 ft (full pool). Minimum pool elevation, 910.00 ft (capacity, 2,040 acre-ft). Reservoir is used for flood control. Figures given herein represent total contents.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	3,090	3,297	2,562	5,167	2,599	7,318	10,392	3,516	15,988	2,970	2,828	2,362
1952	2,726	2,443	7,015	19,043	2,884	2,613	2,678	†2,906	3,512	2,755	2,893	2,377
1953	2,797	2,670	2,817	2,726	2,317	2,934	2,583	8,594	2,998	3,312	3,303	2,811
1954	2,926	2,672	2,595	2,426	2,595	2,892	4,799	3,276	2,884	2,845	3,571	2,683
1955	3,444	3,018	18,537	2,657	4,903	2,485	6,509	3,600	2,814	3,047	2,800	3,050
1956	2,419	2,662	2,516	14,763	10,397	10,482	4,925	5,733	2,909	3,198	2,953	2,987
1957	3,155	2,792	2,859	8,050	4,370	2,948	8,229	3,015	3,047	2,842	2,942	2,753
1958	2,992	2,272	4,620	2,794	11,783	2,822	6,314	2,817	2,797	6,069	2,864	2,928
1959	2,970	3,597	3,035	2,970	2,557	2,601	9,175	2,660	2,875	2,909	4,347	2,709
1960	2,640	7,050	6,240	3,790	2,610	27,760	2,650	3,260	2,820	2,930	2,800	2,830

† Corrected.

KISKIMINETAS RIVER BASIN

470. Loyalhanna Creek at Loyalhanna Creek Dam, Pa.

Location.--Lat 40°27'50", long 79°27'05", on left bank at downstream side of highway bridge, 0.7 mile downstream from Loyalhanna Creek Dam, Westmoreland County, 1½ miles south of Saltsburg, and 4.0 miles upstream from confluence with Conemaugh River.

Drainage area.--292 sq mi.

Records available.--October 1939 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 861.15 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Average discharge.--21 years (1939-60), 476 cfs (adjusted for storage).

Extremes.--1939-60: Maximum discharge, 11,700 cfs June 5, 1941 (gage height, 10.30 ft); minimum, 0.2 cfs Oct. 9, 10, 15, 16, 22-24, 1947, Sept. 16, 17, 1948 (gage height, -0.06 ft); minimum daily, 0.2 cfs Oct. 23, 1947.

Remarks.--Flow completely regulated since 1942 by Loyalhanna Creek Reservoir (see preceding station) and Trout Run Reservoir (combined capacity, 99,000 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	140	534	1,121	1,156	1,215	790	1,153	609	1,251	681	86.4	66.2	729
1952	37.1	195	507	1,135	961	864	1,084	1,068	365	148	124	53.4	544
1953	37.8	76.1	296	802	565	919	816	652	459	112	49.9	57.0	403
1954	28.7	34.7	91.9	333	285	711	668	323	366	82.9	198	119	270
1955	1,205	322	604	816	1,153	1,476	618	277	373	133	310	55.0	610
1956	130	374	177	117	1,836	1,297	1,271	1,009	456	328	494	345	647
1957	145	100	647	603	879	462	1,206	297	234	87.4	34.5	34.6	390
1958	39.2	68.1	367	465	507	915	564	959	149	321	724	242	430
1959	141	185	341	923	866	582	628	540	166	71.0	120	65.1	383
1960	86.1	270	704	893	588	392	1,087	675	240	96.6	65.1	89.6	432

Monthly and yearly runoff, in inches (adjusted) ^a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.57	2.08	4.38	4.74	4.17	3.42	4.60	1.96	5.59	1.84	0.32	0.21	33.88
1952	.17	.74	2.32	5.26	2.51	3.40	4.15	4.23	1.43	.53	.50	.17	25.41
1953	.16	.27	1.19	3.19	1.99	3.67	3.09	2.96	1.38	.45	.20	.19	18.74
1954	.12	.12	.34	1.31	1.03	2.85	2.68	1.18	1.37	.31	.85	.40	12.54
1955	4.82	1.20	3.38	2.20	4.26	5.67	2.62	.90	1.37	.53	1.21	.22	28.38
1956	.47	1.46	.68	1.26	6.50	5.13	4.50	4.04	1.56	1.31	1.93	1.33	30.17
1957	.58	.36	2.57	2.58	3.03	1.73	4.94	.83	.89	.33	.13	.11	18.08
1958	.17	.21	1.60	1.72	1.68	3.03	2.38	3.56	.57	1.48	2.65	.93	19.98
1959	.56	.76	1.51	3.64	3.06	2.51	2.82	1.71	.63	.27	.57	.14	17.78
1960	.34	1.34	2.79	3.44	2.12	3.17	2.53	2.73	.86	.37	.22	.32	20.21

^a Adjusted for change in contents in Trout Run and Loyalhanna Creek Reservoirs.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted ^a /					Observed		Adjusted ^a /
		Momentary maximum		Minimum day	Mean	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Mean	Mean	Runoff in inches
		Discharge	Date											
1950	-	-	-	-	-	-	-	-	-	-	-	596	596	27.67
1951	1205	4,520	June 16, 1951	8.1	729	728	2.49	33.88	641	647	30.08	596	647	30.08
1952	1235	4,520	Jan. 30, 1952	.6	544	544	1.86	25.41	511	511	23.80	596	511	23.80
1953	1275	3,920	June 2, 1953	.5	403	403	1.38	18.74	381	381	17.70	596	381	17.70
1954	1335	3,920	Mar. 3, 1954	14	270	270	.925	12.54	437	437	21.36	596	437	21.36
1955	1385	4,780	Oct. 18, 1954	15	610	610	2.09	28.38	487	487	21.59	596	487	21.59
1956	1435	4,310	Mar. 10, 1956	50	647	647	2.22	30.17	665	665	31.07	596	665	31.07
1957	1505	2,950	Apr. 10, 1957	17	390	389	1.33	18.08	355	357	16.55	596	357	16.55
1958	1555	3,650	May 9, 1958	17	430	430	1.47	19.98	446	446	20.63	596	446	20.63
1959	1625	3,050	Jan. 24, 1959	19	383	382	1.31	17.78	416	422	19.62	596	422	19.62
1960	1705	4,860	Apr. 7, 1960	37	432	434	1.49	20.21	-	-	-	596	-	-

^a Adjusted for change in contents in Trout Run and Loyalhanna Creek Reservoirs.

485. Kiskiminetas River at Vandergrift, Pa.

Location.--Lat 40°36'20", long 79°33'15", on left bank a third of a mile upstream from bridge on State Highway 56 at Vandergrift, Westmoreland County, and 2 miles upstream from Pine Run.

Drainage area.--1,825 sq mi.

Records available.--August 1937 to September 1960. Monthly discharge only for some periods, published in WSP 1305. October 1920 to September 1932 (gage heights and discharge measurements only) in reports of Pennsylvania Department of Forests and Waters.

Gage.--Water-stage recorder. Datum of gage is 769.40 ft above mean sea level (Corps of Engineers bench mark). Oct. 1, 1920, to Sept. 30, 1930, float gage and Oct. 1, 1930, to Sept. 30, 1932, water-stage recorder, at site two-thirds of a mile downstream at different datum.

Average discharge.--23 years (1937-60), 3,043 cfs (adjusted for storage and diversion).

Extremes.--1937-60: Maximum discharge, 71,900 cfs Mar. 31, 1940 (gage height, 25.70 ft); minimum, 56 cfs Oct. 15, 16, 1952; minimum daily, 60 cfs Oct. 15, 1952. Maximum stage known, 41.64 ft Mar. 18, 1936, from floodmark at present site (discharge, 185,000 cfs, by slope-area measurement).

Remarks.--Flow regulated since 1952 by Conemaugh River Reservoir (see p. 50), since 1942 by Loyalhanna Creek Reservoir (see p. 53), and by other reservoirs above station, the 11 most effective of which have a combined capacity of 3,536,000,000 cu ft. Figures of daily discharge do not include diversion from Beaver Run Reservoir to plants and communities downstream, nor into the Monongahela River basin. Records of chemical analyses and water temperatures at Leechburg for the periods October 1946 to September 1951, October 1958 to June 1959, and October 1959 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,423	3,617	6,525	8,398	7,541	5,512	7,436	3,394	6,107	3,316	740	492	4,516
1952	368	1,199	3,202	8,415	4,496	6,356	6,652	6,748	1,695	692	818	426	3,427
1953	339	1,168	2,195	4,613	4,003	6,455	5,525	4,156	3,551	843	645	446	2,820
1954	315	307	676	2,056	1,975	5,039	3,642	2,161	1,891	754	1,588	927	1,777
1955	6,429	2,357	4,219	5,085	5,918	9,179	4,304	1,830	2,763	1,254	1,470	535	3,775
1956	1,070	2,202	1,217	847	10,140	8,327	7,962	5,812	2,350	3,517	3,188	1,644	3,995
1957	1,054	835	4,109	3,706	5,638	3,184	8,119	1,738	1,213	717	377	324	2,557
1958	383	458	2,537	2,533	1,724	5,402	5,403	6,243	969	1,979	4,138	1,433	2,783
1959	795	1,470	1,979	5,314	5,549	4,214	4,301	3,955	950	511	561	385	2,482
1960	854	2,271	4,612	5,662	3,922	2,335	8,665	6,101	2,406	921	601	891	3,263

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.87	2.23	4.23	5.34	4.28	3.57	4.57	2.04	3.88	1.94	0.39	0.21	33.55
1952	.16	.75	2.25	5.65	2.52	4.12	4.28	1.04	.40	.47	.17	.17	25.93
1953	.16	.68	1.48	3.10	2.32	4.19	3.40	3.06	1.74	.47	.35	.21	21.16
1954	.13	.14	.42	1.41	1.20	3.40	2.37	1.33	1.16	.43	1.03	.51	13.53
1955	4.19	1.43	3.67	2.28	3.48	5.75	2.81	1.02	1.71	.76	.93	.25	28.26
1956	.62	1.37	.75	.87	6.30	5.28	4.72	3.57	1.41	2.25	2.01	1.00	30.15
1957	.61	.44	2.74	2.54	3.16	2.04	5.03	1.00	.76	.37	.15	.13	18.97
1958	.20	.23	1.86	1.65	1.34	3.27	5.46	3.76	.57	1.31	2.61	.85	21.11
1959	.46	.89	1.27	3.55	3.13	2.67	3.26	1.93	.54	.30	.40	.16	18.56
1960	.58	1.61	2.96	3.68	2.31	3.27	3.54	3.94	1.43	.56	.30	.51	24.69

a/ Adjusted for change in contents in Quemahoning, North Fork Bens Creek, Dalton Run, Mill Creek, Saltlick Run, Hincston Run, and Laurel Run Reservoirs, in Conemaugh River Reservoir since October 1951, in Trout Run and Loyalhanna Creek Reservoirs, in Beaver Run Reservoir since November 1951, and for diversion from Beaver Run Reservoir since February 1952.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted a/					Observed		
		Momentary maximum		Minimum			Mean		Per square mile		Runoff in inches		Mean	
		Discharge	Date	day	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
1950	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1951	1205	29,900	Dec. 4, 1950	384	4,518	4,511	2.47	35.55	3,948	3,948	29.38	3,820	3,824	28.45
1952	1235	34,700	Jan. 27, 1952	297	3,427	3,476	1.90	25.93	3,336	3,363	25.09	3,220	3,224	24.13
1953	1275	24,200	June 2, 1953	60	2,820	2,642	1.56	21.16	2,619	2,624	19.53	2,499	2,503	18.56
1954	1335	23,300	Mar. 4, 1954	176	1,777	1,618	.996	13.53	2,766	2,793	22.13	2,649	2,653	21.73
1955	1385	32,000	Oct. 19, 1954	254	3,775	3,798	2.08	28.26	3,052	2,921	21.73	2,820	2,824	21.73
1956	1435	26,600	Mar. 11, 1956	480	3,995	4,043	2.22	30.15	4,125	4,184	31.20	3,995	4,043	31.20
1957	1505	20,800	Apr. 10, 1957	251	2,557	2,551	1.40	18.97	2,338	2,370	17.47	2,202	2,206	17.47
1958	1555	21,800	May 10, 1958	263	2,783	2,837	1.55	21.11	2,854	2,882	21.44	2,702	2,706	21.44
1959	1625	19,400	Jan. 25, 1959	192	2,482	2,498	1.37	18.56	2,776	2,837	21.09	2,649	2,653	21.09
1960	1705	30,200	Apr. 6, 1960	308	3,263	3,287	1.80	24.69	-	-	-	-	-	-

a/ Adjusted for change in contents in Quemahoning, North Fork Bens Creek, Dalton Run, Mill Creek, Saltlick Run, Hincston Run, and Laurel Run Reservoirs, in Conemaugh River Reservoir since October 1951, in Trout Run and Loyalhanna Creek Reservoirs, in Beaver Run Reservoir since November 1951, and for diversion from Beaver Run Reservoir since February 1952.

490. Buffalo Creek near Freeport, Pa.

Location.--Lat 40°43'00", long 79°42'00", on right bank 0.5 mile upstream from Little Buffalo Creek and 3 miles north of Freeport, Armstrong County.

Drainage area.--137 sq mi.

Records available.--October 1940 to September 1960. Monthly discharge only for October 1940, published in WSP 1305.

Gage.--Staff and crest-stage gages. Altitude of gage is 792 ft (by barometer).

Average discharge.--20 years (1940-60), 196 cfs.

Extremes.--1940-60: Maximum discharge, 14,000 cfs Oct. 15, 1954 (gage height, 13.60 ft, from floodmarks), from rating curve extended above 4,300 cfs on basis of slope-area measurement of peak flow; minimum observed, 2.0 cfs Sept. 3, 4, 7, 8, 1945; minimum gage height observed, 0.70 ft Sept. 14, 1952.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	42.3	308	506	608	591	351	407	131	196	78.0	12.6	12.6	268
1952	9.49	95.7	280	821	365	391	327	525	66.9	17.5	16.9	6.93	244
1953	8.11	23.5	95.9	217	160	323	341	380	254	38.3	46.4	11.1	158
1954	9.71	11.0	38.4	138	198	424	416	105	106	18.3	16.1	32.4	125
1955	571	91.1	380	199	472	474	260	68.2	94.3	51.3	47.6	18.4	227
1956	74.7	190	72.4	70.5	861	474	538	429	481	309	217	63.2	312
1957	53.5	26.2	251	262	266	266	704	86.9	29.9	19.7	4.92	18.9	165
1958	13.8	36.4	378	179	184	293	258	359	73.2	183	202	111	190
1959	57.5	115	146	421	414	314	255	155	58.5	46.6	22.6	8.56	166
1960	76.1	183	381	311	300	381	250	253	173	58.8	15.1	8.03	199

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.36	2.50	4.26	5.11	4.49	2.95	3.31	1.11	1.60	0.66	0.11	0.10	26.56
1952	.08	.78	2.36	6.91	2.88	3.29	2.66	4.42	.55	.15	.14	.06	24.28
1953	.07	.19	.81	1.83	1.22	2.72	2.78	3.20	2.07	.32	.39	.09	15.69
1954	.08	.09	.32	1.16	1.50	3.57	3.39	.89	.86	.15	.14	.26	12.41
1955	4.81	.74	3.20	1.68	3.59	3.99	2.11	.57	.77	.43	.40	.15	22.44
1956	.63	1.55	.61	.59	6.78	3.99	4.38	3.61	3.91	2.60	1.82	.51	30.98
1957	.45	.21	2.12	2.21	2.02	2.24	5.73	.73	.24	.17	.04	.15	16.31
1958	.12	.30	3.18	1.51	1.40	2.47	2.10	3.02	.60	1.54	1.70	.90	18.84
1959	.48	.94	1.23	3.54	3.15	2.64	2.07	1.31	.48	.39	.19	.07	16.49
1960	.64	1.49	3.21	2.61	2.37	3.20	2.04	2.13	1.41	.49	.13	.07	19.79

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	258	25.56
1951	1205	4,760	Dec. 4, 1950	8.0	268	1.96	26.56	229	22.66
1952	1235	7,170	Jan. 27, 1952	3.5	244	1.78	24.28	223	22.13
1953	1275	3,920	May 31, 1953	5.2	158	1.15	15.89	152	15.11
1954	1335	3,810	Apr. 17, 1954	5.7	125	.912	12.41	209	20.67
1955	1385	14,000	Oct. 15, 1954	5.3	227	1.66	22.44	166	16.48
1956	1435	7,020	June 24, 1956	10	312	2.28	30.98	312	30.97
1957	1505	7,020	Apr. 4, 1957	3.6	165	1.20	16.31	173	17.13
1958	1555	3,190	Dec. 21, 1957	6.4	190	1.39	18.84	181	17.89
1959	1625	4,590	Jan. 22, 1959	6.7	166	1.21	16.49	194	19.18
1960	1705	4,830	Mar. 30, 1960	5.3	199	1.45	19.79	-	-

495. Allegheny River at Natrona, Pa.

Location.--Lat 40°36'55", long 79°43'10", on right bank 550 ft upstream from dam at lock 4 at Natrona, Allegheny County, 6 miles downstream from Kiskiminetas River, and at mile 24.2.

Drainage area.--11,410 sq mi, approximately.

Records available.--October 1938 to September 1960.

Gage.--Water-stage recorder and concrete dam control. Datum of gage is 736.74 ft above mean sea level, adjustment of 1912 (Corps of Engineers bench mark). Prior to Apr. 14, 1940, staff gage at same site and datum.

Average discharge.--22 years (1938-60), 19,570 cfs (adjusted for storage since 1940).

Extremes.--1938-60: Maximum discharge, 238,000 cfs Dec. 30, 1942 (gage height, 27.46 ft); minimum, 922 cfs Sept. 3, 1957 (gage height, 8.86 ft).
Maximum stage known, 32.06 ft Mar. 18, 1936 (discharge, 365,000 cfs, determined by Corps of Engineers).

Remarks.--Flow regulated by Chautauqua Lake and by Tionesta Creek, Mahoning Creek, Crooked Creek, Loyalhanna Creek Reservoirs, and 11 smaller reservoirs, since 1952 by East Branch Clarion River Reservoir, since 1951 by Conemaugh River and Beaver Run Reservoirs (combined capacity, excluding that of Chautauqua Lake, 864,600 acre-ft). Slight diversion since 1952 from Beaver Run Reservoir into the Monongahela River basin.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8,262	35,380	42,400	48,520	46,500	42,490	44,250	16,610	18,470	12,280	2,437	2,009	26,490
1952	1,890	12,760	23,930	68,600	34,690	40,620	32,560	34,600	7,468	2,407	2,646	2,200	22,050
1953	1,924	6,083	15,350	21,840	23,140	34,480	29,870	38,140	25,150	3,697	4,427	3,145	17,240
1954	2,005	2,686	9,925	15,040	23,190	35,900	39,390	19,440	10,450	3,184	3,405	2,680	13,950
1955	26,670	11,500	27,700	28,670	26,530	57,750	25,520	10,430	8,746	3,890	4,494	1,946	19,510
1956	11,980	24,090	16,830	6,612	42,560	59,950	50,270	42,670	18,290	20,820	23,020	17,550	27,610
1957	6,433	7,318	29,120	26,470	24,770	24,830	55,710	16,810	8,149	6,977	1,926	1,784	17,460
1958	1,731	3,642	24,550	12,790	8,751	30,420	36,610	32,070	14,570	21,160	15,140	12,620	17,920
1959	7,511	14,810	13,010	40,800	42,560	35,640	35,360	21,990	8,052	5,503	2,923	1,878	19,020
1960	10,450	25,470	36,540	34,250	27,220	16,540	46,950	30,240	18,160	5,309	3,326	2,626	21,210

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.82	3.53	4.24	4.91	4.27	4.35	4.31	1.64	1.83	1.21	0.22	0.18	31.51
1952	.17	1.27	2.48	7.07	3.13	4.14	3.20	3.49	1.73	.23	.26	.19	26.36
1953	.16	.59	1.58	2.26	2.11	3.55	2.93	4.05	2.28	.34	.42	.27	20.54
1954	.15	.25	1.02	1.68	2.13	3.71	3.88	1.94	1.02	.30	.32	.23	16.63
1955	2.71	1.12	3.10	2.82	2.48	5.83	2.57	1.00	.84	.36	.43	.16	23.22
1956	1.20	2.38	1.68	.73	4.15	6.08	4.88	4.28	1.77	2.09	2.33	1.70	33.27
1957	.62	.68	3.00	2.72	2.27	2.51	5.50	1.59	1.76	.67	.17	.16	20.65
1958	.16	.35	2.56	1.28	.87	3.07	3.67	3.19	1.43	2.16	1.51	1.23	21.48
1959	.72	1.44	1.30	4.24	3.84	3.64	3.64	2.05	.78	.53	.26	.14	22.58
1960	1.08	2.39	3.70	3.42	2.57	2.14	4.16	3.09	1.75	.50	.30	.21	25.31

a Adjusted for change in contents in Chautauqua Lake, in Tionesta Creek, Mahoning Creek, Crooked Creek, Loyalhanna Creek Reservoirs, and 11 smaller reservoirs, in East Branch Clarion River Reservoir since June 1952, in Conemaugh River Reservoir since October 1950, in Beaver Run Reservoir since November 1951, and for diversion from Beaver Run Reservoir into Monongahela River basin since February 1952.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted a/					Observed		Adjusted a/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date											
1950	-	-	-	-	-	-	-	-	-	-	-	26,430	26,430	31.43
1951	1205	152,000	Dec. 4, 1950	1,440	26,490	26,480	2.32	31.51	22,520	22,550	26.84	26,84	26,84	31.43
1952	1255	185,000	Jan. 27, 1952	1,200	22,050	22,090	1.94	26.36	20,780	20,770	24.77	20,770	24,77	24.77
1953	1275	139,000	May 31, 1953	1,540	17,240	17,290	1.52	20.54	16,500	16,510	19.63	16,510	19,63	19.63
1954	1355	100,000	Mar. 4, 1954	1,510	13,950	13,970	1.22	16.63	18,280	18,800	22.14	18,800	22,14	22.14
1955	1385	143,000	Oct. 16, 1954	1,180	19,510	19,510	1.71	23.22	18,580	18,120	21.55	18,120	21,55	21.55
1956	1455	178,000	Mar. 9, 1956	2,060	27,610	27,880	2.44	33.27	27,010	27,080	32.31	27,080	32,31	32.31
1957	1505	118,000	Jan. 24, 1957	1,000	17,460	17,380	1.52	20.65	16,370	16,370	19.42	16,370	19,42	19.42
1958	1555	98,500	July 15, 1958	1,100	17,920	18,040	1.58	21.48	18,350	18,350	21.87	18,350	21,87	21.87
1959	1625	215,000	Jan. 22, 1959	1,030	19,020	18,970	1.66	22.58	21,980	22,090	26.29	21,980	26,29	26.29
1960	1705	157,000	Apr. 1, 1960	1,800	21,210	21,230	1.86	25.31	-	-	-	-	-	-

a See footnote to preceding table.

500. Tygart River near Dailey, W. Va.

Location.--Lat 38°48'35", long 79°52'55", on right bank 50 ft downstream from highway bridge, 1,000 ft upstream from Stalnaker Run, 1 mile northeast of Dailey, Randolph County, and $2\frac{1}{2}$ miles south of Beverly.

Drainage area.--187 sq mi.

Records available.--April 1915 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,940.09 ft above mean sea level, adjustment of 1912. Prior to Sept. 27, 1928, staff gage a few feet upstream at same datum. Sept. 27, 1928, to Dec. 2, 1939, chain gage and Dec. 3, 1939, to Dec. 16, 1941, wire-weight gage, at site 50 ft upstream at same datum.

Average discharge.--45 years (1915-60), 344 cfs.

Extremes.--1915-60: Maximum discharge, 13,100 cfs Feb. 4, 1932 (gage height, 17.2 ft, from floodmarks), from rating curve extended above 7,500 cfs; no flow Sept. 12 to Nov. 30, 1930, Sept. 29 to Nov. 5, 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	193	320	758	556	671	594	712	487	424	91.1	23.7	27.4	404
1952	4.54	160	540	1,032	253	493	584	448	70.7	30.6	32.8	6.92	306
1953	4.33	13.0	146	518	642	524	571	479	137	61.6	17.6	.32	257
1954	0	3.00	69.2	427	305	811	376	220	203	307	174	62.0	247
1955	571	220	558	265	998	1,192	163	178	49.8	56.4	60.5	4.65	357
1956	18.1	102	139	278	1,090	909	540	586	573	224	458	77.0	413
1957	99.6	143	533	993	894	304	553	122	230	99.8	8.93	4.75	329
1958	72.0	101	587	463	464	610	920	619	189	435	551	46.2	422
1959	22.0	92.1	124	517	380	426	572	278	201	31.4	38.4	4.74	223
1960	78.8	315	498	701	395	756	647	338	60.9	53.2	67.5	215	344

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.19	1.91	4.67	3.43	3.74	3.66	4.30	3.00	2.53	0.56	0.15	0.16	29.30
1952	.03	.96	3.33	6.37	1.46	3.04	3.48	2.76	.42	.19	.20	.04	22.28
1953	.03	.08	.90	3.19	3.57	3.23	3.41	2.95	.82	.38	.11	.002	18.67
1954	0	.02	.43	2.63	1.70	5.00	2.24	1.36	1.21	1.89	1.07	.37	17.92
1955	3.52	1.31	3.44	1.63	5.56	7.35	.97	1.10	.30	.35	.37	.03	25.93
1956	.11	.61	.85	1.71	6.29	5.61	3.22	3.61	1.32	1.38	2.83	.46	30.10
1957	.61	.85	3.28	6.12	4.98	1.88	3.30	.75	1.37	.62	.08	.03	23.85
1958	.44	.60	3.62	2.85	2.58	3.76	5.49	3.81	1.13	2.68	3.40	.28	30.64
1959	.14	.55	.76	3.19	2.11	2.62	3.41	1.71	1.20	.19	.24	.05	16.15
1960	.49	1.88	3.07	4.32	2.28	4.66	3.86	2.08	.36	.33	.42	1.28	25.03

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	471	34.18
1951	1205	5,700	Dec. 4, 1950	6.0	404	2.16	29.30	356	25.85
1952	1235	5,100	Jan. 28, 1952	2.2	306	1.64	22.28	261	18.97
1953	1275	4,320	Feb. 22, 1953	0	257	1.37	18.67	249	18.11
1954	1335	5,800	Mar. 1, 1954	0	247	1.32	17.92	355	25.74
1955	1385	10,400	Oct. 16, 1954	.6	357	1.91	25.93	265	19.23
1956	1435	7,250	May 28, Aug. 6	2.6	413	2.21	30.10	457	33.27
1957	1505	9,200	Jan. 30, 1957	.9	329	1.76	23.85	327	23.77
1958	1555	5,710	Aug. 9, 1958	5.2	422	2.26	30.64	378	27.43
1959	1625	4,820	Jan. 22, 1959	.2	223	1.19	16.15	278	20.14
1960	1705	6,850	Mar. 31, 1960	1.0	344	1.84	25.03	-	-

505. Tygart River near Elkins, W. Va.

Location.--Lat 38°55'30", long 79°52'45", on left bank 1.4 miles upstream from Leading Creek and 1.5 miles west of Elkins, Randolph County.

Drainage area.--272 sq mi.

Records available.--October 1944 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,893.95 ft above mean sea level, adjustment of 1912. Prior to Nov. 16, 1944, staff gage and Nov. 16, 1944, to Sept. 30, 1951, water-stage recorder, at site 200 ft upstream at same datum.

Average discharge.--16 years (1944-60), 489 cfs.

Extremes.--1944-60: Maximum discharge, 10,700 cfs Oct. 16, 1954 (gage height, 14.45 ft); minimum, 0.1 cfs Sept. 20-29, 1959; minimum gage height, 1.01 ft Sept. 26-28, 1959.

Remarks.--Records of water temperatures for the period January 1947 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	236	467	1,082	786	1,015	826	1,017	653	685	125	23.4	34.0	576
1952	5.63	194	753	1,504	355	869	845	680	100	49.7	49.6	7.53	438
1953	6.13	16.8	233	765	900	800	870	702	169	82.1	48.7	2.58	380
1954	2.82	1.93	93.7	632	428	1,109	657	314	237	402	274	88.9	346
1955	907	347	815	405	1,512	1,648	264	290	69.7	88.9	126	8.36	536
1956	27.8	149	220	472	1,667	1,363	782	855	806	418	670	108	624
1957	151	220	852	1,397	1,383	484	842	162	255	158	13.4	10.2	488
1958	109	150	854	671	711	903	1,290	937	268	756	838	64.3	631
1959	28.6	150	185	789	571	607	793	431	255	76.4	42.6	7.13	326
1960	106	449	751	1,048	542	1,000	975	520	88.9	70.6	84.0	329	497

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.00	1.92	4.59	3.33	3.89	3.50	4.17	2.77	2.81	0.53	0.10	0.14	28.75
1952	.02	.79	3.19	6.37	1.41	2.92	3.47	2.88	.41	.21	.21	.03	21.91
1953	.03	.08	.99	3.23	3.45	3.39	3.57	2.98	.69	.35	.21	.01	18.98
1954	.01	.008	.40	2.68	1.64	4.70	2.28	1.33	.97	1.71	1.16	.36	17.25
1955	3.84	1.42	3.45	1.72	5.79	6.98	1.08	1.23	.29	.38	.53	.03	26.74
1956	.12	.61	.93	2.00	6.61	5.78	3.21	3.62	3.31	1.77	2.84	.44	31.24
1957	.64	.90	3.61	5.92	5.29	2.05	3.45	.69	1.05	.67	.06	.04	24.37
1958	.46	.62	3.62	2.84	2.72	3.83	5.29	3.97	1.10	3.21	3.55	.26	31.47
1959	.12	.61	.79	3.34	2.18	2.57	3.25	1.83	1.05	.32	.18	.03	16.27
1960	.45	1.84	3.18	4.44	2.15	4.24	4.00	2.20	.36	.30	.36	1.35	24.87

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	686	34.23
1951	1205	6,400	Dec. 4, 1950	7.5	576	2.12	28.75	506	25.24
1952	1235	6,200	Jan. 28, 1952	3.5	458	1.61	21.91	380	19.01
1953	1275	4,340	Feb. 22, 1953	1.2	380	1.40	18.98	366	18.30
1954	1335	5,240	Mar. 2, 1954	1.2	346	1.27	17.25	512	25.54
1955	1385	10,700	Oct. 16, 1954	.7	536	1.97	26.74	395	19.69
1956	1435	8,560	Jan. 30, 1956	4.0	624	2.29	31.24	694	34.73
1957	1505	9,360	Jan. 30, 1957	.2	458	1.79	24.37	479	23.92
1958	1555	5,600	May 6, 1956	12	631	2.32	31.47	567	28.29
1959	1625	5,200	Jan. 22, 1959	.1	326	1.20	16.27	405	20.22
1960	1705	8,400	Mar. 31, 1960	11	497	1.63	24.87	-	-

MONONGAHELA RIVER BASIN

510. Tygart River at Belington, W. Va.

Location.--Lat 39°01'45", long 79°56'10", on left bank opposite mouth of Mill Creek, a quarter of a mile downstream from highway bridge at Belington, Barbour County.

Drainage area.--408 sq mi, excluding that of Mill Creek.

Records available.--June 1907 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,679.49 ft above mean sea level, adjustment of 1912. Prior to Apr. 25, 1939, staff or chain gage at site a quarter of a mile upstream at same datum.

Average discharge.--53 years (1907-60), 797 cfs.

Extremes.--1907-60: Maximum discharge, 18,400 cfs July 25, 1912 (gage height, 20.3 ft, from floodmarks, site then in use), from rating curve extended above 13,000 cfs; minimum, 0.1 cfs Sept. 13, 1930 (gage height, 1.56 ft, site then in use).

Maximum stage known, 21.7 ft July 1888, from floodmarks, site in use June 1907 to April 1939 (discharge, 21,200 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	502	770	1,659	1,342	1,694	1,288	1,640	963	1,081	238	58.1	66.6	917
1952	18.0	416	1,286	2,379	555	1,063	1,274	1,081	164	72.1	73.3	18.5	703
1953	14.0	36.6	419	1,326	1,382	1,322	1,414	1,202	239	145	215	7.45	640
1954	4.90	5.74	190	1,042	628	1,595	850	488	283	616	607	148	540
1955	1,455	508	1,238	647	2,164	2,309	483	480	148	129	171	12.6	807
1956	53.2	242	560	714	2,505	2,053	1,084	1,267	1,189	724	1,060	161	946
1957	217	322	1,411	2,044	786	1,177	250	298	207	14.6	8.02		729
1958	164	210	1,327	1,006	1,094	1,391	1,838	1,444	434	1,429	1,316	108	983
1959	49.0	254	545	1,269	935	949	1,164	752	354	137	85.3	18.6	524
1960	167	728	1,265	1,615	839	1,406	1,452	851	165	114	163	565	778

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.85	2.10	4.69	3.79	4.32	3.64	4.49	2.72	2.96	0.67	0.11	0.18	30.52
1952	.05	1.14	3.63	6.72	1.47	3.01	3.48	3.05	.45	.20	.21	.05	23.46
1953	.04	.10	1.18	3.75	5.53	3.74	3.97	3.40	.65	.41	.61	.02	21.30
1954	.01	.02	.54	2.94	1.60	4.51	2.32	1.58	.77	1.74	1.71	.40	17.94
1955	4.11	1.39	3.50	1.83	5.52	6.52	1.32	1.36	.40	.36	.48	.03	26.82
1956	.15	.66	1.02	2.02	6.62	5.80	2.96	3.58	3.25	2.05	3.00	.44	31.55
1957	.61	.88	3.99	5.77	5.39	2.23	3.22	.71	.82	.58	.04	.02	24.26
1958	.46	.57	3.75	2.84	2.79	3.93	5.03	4.08	1.19	4.04	3.72	.30	32.70
1959	.14	.69	.98	3.59	2.39	2.68	3.18	2.12	.97	.39	.24	.05	17.42
1960	.47	1.99	3.57	4.56	2.22	3.97	3.97	2.40	.45	.32	.46	1.55	25.93

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1265	-	-	-	-	-	-	1,054	35.06
1951	1205	9,690	Feb. 1, 1951	9.0	917	2.25	30.52	833	27.70
1952	1235	9,050	Jan. 28, 1952	7.6	703	1.72	23.46	598	19.96
1953	1275	5,170	Jan. 9, Feb. 22	3.5	640	1.57	21.30	617	20.55
1954	1335	5,930	Mar. 2, 1954	2.8	540	1.32	17.94	793	26.37
1955	1385	15,000	Oct. 16, 1954	4.7	807	1.98	26.82	591	19.65
1956	1435	11,500	Jan. 30, 1956	5.4	946	2.32	31.55	1,055	35.20
1957	1505	12,600	Feb. 10, 1957	1.7	729	1.79	24.26	708	23.56
1958	1555	8,280	July 23, 1958	6.7	983	2.41	32.70	893	29.73
1959	1625	6,540	Jan. 22, 1959	4.0	524	1.28	17.42	651	21.64
1960	1705	10,600	Mar. 31, 1960	7.3	778	1.91	25.93	-	-

520. Middle Fork River at Audra, W. Va.

Location.--39°02'25", long 80°04'10", on right bank at Audra, Barbour County, 600 ft upstream from highway bridge and 2.7 miles upstream from mouth.

Drainage area.--149 sq mi.

Records available.--February 1942 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,670 ft (from topographic map).

Average discharge.--18 years (1942-60), 338 cfs.

Extremes.--1942-60: Maximum discharge, 9,780 cfs Oct. 16, 1954 (gage height, 13.02 ft); minimum, 0.2 cfs Oct. 11-27, 1953; minimum gage height, 1.07 ft Sept. 9, 1957

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	142	389	628	604	666	558	733	334	321	53.0	6.69	15.1	369
1952	4.59	182	575	959	240	401	504	443	58.2	30.0	49.5	8.91	289
1953	5.46	15.5	189	611	570	531	655	501	68.1	92.9	73.8	1.66	275
1954	.387	2.40	93.0	485	270	664	410	224	86.1	135	237	113	227
1955	548	238	525	319	888	943	239	249	50.1	34.6	29.2	2.42	336
1956	16.2	83.6	138	290	1,070	887	462	496	426	261	510	88.9	392
1957	82.0	185	656	837	897	382	456	105	217	86.6	5.30	5.27	321
1958	72.4	87.5	562	394	466	598	787	616	235	612	465	42.5	412
1959	28.1	182	222	581	432	387	497	339	156	44.7	34.0	14.0	240
1960	42.1	327	573	712	345	560	549	348	68.0	40.4	70.8	184	319

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.10	2.91	4.86	4.68	4.65	4.32	5.49	2.59	2.40	0.41	0.05	0.11	33.57
1952	.04	1.36	4.45	7.42	1.74	3.10	5.77	3.43	.44	.23	.38	.07	26.43
1953	.04	.12	1.46	4.72	3.98	4.11	4.90	3.88	.51	.72	.57	.01	25.02
1954	.005	.02	.72	3.76	1.88	5.14	5.07	1.73	.64	1.04	1.83	.84	20.67
1955	4.24	1.78	4.06	2.47	6.20	7.29	1.79	1.92	.37	.27	.23	.02	30.64
1956	.12	.63	1.07	2.24	7.74	6.86	3.46	3.83	3.19	2.02	3.95	.67	35.78
1957	.63	1.23	5.07	6.48	6.27	2.96	3.41	.82	1.63	.67	.04	.04	29.25
1958	.56	.65	4.35	2.97	3.26	4.62	5.89	4.77	1.76	4.74	3.60	.32	37.49
1959	.22	1.21	1.71	4.49	3.02	3.00	3.72	2.62	1.17	.35	.26	.11	21.88
1960	.33	2.45	4.43	5.51	2.49	4.33	4.11	2.69	.51	.31	.55	1.38	29.09

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	463	42.21
1951	1205	4,920	Dec. 4, 1950	1.9	369	2.48	33.57	335	30.55
1952	1235	4,370	Jan. 27, 1952	1.1	289	1.94	26.43	243	22.20
1953	1275	2,360	Jan. 8, 1953	.7	275	1.85	25.02	265	24.14
1954	1335	3,170	Jan. 16, 1954	.2	227	1.52	20.67	350	30.01
1955	1385	9,780	Oct. 16, 1954	.5	356	2.26	30.64	246	22.38
1956	1435	6,420	Aug. 6, 1956	2.0	392	2.63	35.78	448	40.89
1957	1505	7,500	Jan. 29, 1957	.5	321	2.15	29.25	306	27.88
1958	1555	5,140	July 23, 1958	4.0	412	2.77	37.49	385	35.07
1959	1625	5,250	Jan. 22, 1959	1.1	240	1.61	21.88	285	25.95
1960	1705	4,590	Mar. 30, 1960	2.6	319	2.14	29.09	-	-

525. Sand Run near Buckhannon, W. Va.

Location.--Lat 38°57'50", long 80°09'10", on right bank 300 ft downstream from Left Fork, 4.5 miles southeast of Buckhannon, Upshur County, and 6 miles upstream from mouth.

Drainage area.--14.5 sq mi.

Records available.--October 1946 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,530 ft (from topographic map).

Average discharge.--14 years (1946-60), 26.3 cfs.

Extremes.--1946-60: Maximum discharge, 2,000 cfs June 25, 1950 (gage height, 6.18 ft), from rating curve extended above 600 cfs on basis of logarithmic plotting; no flow for several days in 1951-55.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1947	4.13	1.93	14.8	45.8	16.6	45.4	13.4	35.5	39.9	16.4	7.42	9.80	21.0
1948	1.10	9.50	14.0	34.0	86.8	60.2	45.5	29.6	40.8	23.7	9.91	20.2	31.0
1949	5.87	33.7	63.4	80.5	58.4	36.4	30.4	22.8	3.04	14.9	11.0	3.56	30.2
1950	14.0	34.5	50.0	68.0	61.1	68.6	29.7	36.4	62.1	13.6	7.01	12.5	38.0
1951	8.98	31.5	49.1	54.0	63.9	45.7	51.9	18.3	17.2	5.00	.485	1.46	28.7
1952	.281	16.1	47.6	81.3	22.6	30.7	37.5	31.8	3.25	1.01	2.32	.852	23.0
1953	.432	1.29	16.8	45.1	39.9	39.6	48.6	34.9	13.4	13.3	3.41	.071	21.3
1954	.013	.060	8.28	30.8	16.3	43.4	26.8	13.5	2.39	9.83	19.8	6.03	14.8
1955	54.2	16.8	41.4	24.6	71.7	83.9	20.3	13.2	2.35	3.08	3.34	.234	27.8
1956	2.59	9.46	12.5	32.8	89.1	78.1	28.9	28.6	25.9	21.8	43.8	8.81	31.7
1957	6.07	12.7	1.12	2.70	68.2	78.9	32.4	38.4	12.9	10.8	3.79	.128	27.1
1958	7.95	5.61	44.8	39.3	51.7	35.8	47.9	49.2	10.9	59.4	37.5	3.37	32.8
1959	2.65	8.99	14.6	40.5	34.1	29.0	37.2	21.6	6.99	8.87	4.01	.591	17.3
1960	4.15	30.2	41.1	56.4	36.8	38.7	32.1	19.8	4.01	4.00	9.15	6.93	23.6

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1947	0.33	0.15	1.18	3.64	1.19	3.61	1.03	2.82	3.07	1.31	0.59	0.75	19.67
1948	.09	.73	1.12	2.70	6.45	4.79	3.50	2.36	3.14	1.88	.79	1.55	29.10
1949	.47	2.59	5.04	6.40	4.19	2.89	2.34	1.81	.23	1.19	.88	.27	28.30
1950	1.12	2.66	3.97	5.41	4.39	5.46	2.29	2.89	4.78	1.08	.56	.96	35.57
1951	.71	2.42	3.90	4.29	4.59	3.63	3.99	1.45	1.33	.40	.04	.11	26.86
1952	.02	1.24	3.78	6.46	1.68	2.44	2.89	2.53	.25	.08	.18	.07	21.62
1953	.03	.10	1.34	3.59	2.86	3.15	3.74	2.78	1.03	1.05	.27	.005	19.94
1954	.001	.005	.66	2.45	1.17	3.45	2.06	1.07	.18	.78	1.57	.46	13.86
1955	4.31	1.30	3.30	1.95	5.15	6.67	1.57	1.05	.18	.24	.27	.02	26.01
1956	.21	.73	.99	2.61	6.63	6.21	2.22	2.28	1.99	1.73	3.48	.68	29.76
1957	.48	.98	5.08	5.42	5.67	2.58	2.96	1.03	.83	.30	.02	.01	25.36
1958	.63	.43	3.56	3.12	3.71	2.85	3.68	3.91	.84	4.72	2.98	.26	30.69
1959	.21	.69	1.16	3.22	2.45	2.31	2.86	1.72	.54	.71	.32	.05	16.24
1960	.33	2.33	3.27	4.48	2.74	3.08	2.47	1.57	.31	.32	.73	.53	22.16

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1947	1435	1,310	June 8, 1947	-	21.0	1.45	19.67	21.3	19.95		
1948	1435	1,320	Mar. 24, 1948	0.5	31.0	2.14	29.10	37.6	35.26		
1949	1435	670	Feb. 15, 1949	.6	30.2	2.08	28.30	29.9	27.95		
1950	1435	2,000	June 25, 1950	1.4	38.0	2.62	35.57	37.2	34.85		
1951	1435	733	Dec. 4, 1950	0	28.7	1.98	26.86	26.6	24.87		
1952	1435	508	Jan. 27, 1952	0	23.0	1.59	21.62	19.2	18.05		
1953	1435	331	June 28, 1953	0	21.3	1.47	19.94	*20.5	*19.14		
1954	1335	273	Jan. 16, 1954	0	14.8	1.02	13.86	23.6	22.10		
1955	1385	*1,140	Oct. 15, 1954	0	27.8	1.92	26.01	20.3	19.03		
1956	1435	806	Aug. 6, 1956	0	31.7	2.19	29.76	36.6	34.37		
1957	1505	1,100	Feb. 10, 1957	.01	27.1	1.87	25.36	25.0	23.44		
1958	1555	582	Aug. 3, 1958	.05	32.8	2.26	30.69	30.1	28.13		
1959	1625	415	Jan. 22, 1959	.05	17.3	1.19	16.24	21.5	20.11		
1960	1705	517	Nov. 28, 1959	.1	23.6	1.63	22.16	-	-		

* Revised.

* Not previously published.

535. Buckhannon River at Hall, W. Va.

Location.--Lat 39°03'05", long 80°06'50", on right bank a quarter of a mile upstream from highway bridge at Hall, Barbour County, and 1 mile upstream from Pecks Run.

Drainage area.--277 sq mi.

Records available.--June 1907 to May 1909 (gage heights only), April 1915 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,369.15 ft above mean sea level (Baltimore & Ohio RR. datum). Prior to May 25, 1909, chain gage at site a quarter of a mile downstream at a datum 4.12 ft lower. Apr. 15, 1915, to June 8, 1939, staff gage at site 500 ft downstream at present datum.

Average discharge.--45 years (1915-60), 593 cfs.

Extremes.--1915-60: Maximum discharge observed, 12,200 cfs Mar. 14, 1918, Oct. 29, 1937 (gage height, 14.7 ft, site then in use), from rating curve extended above 8,000 cfs; minimum, 0.2 cfs Oct. 23, 27, 1930 (gage height, 1.30 ft, site then in use).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	247	723	1,245	1,102	1,431	1,035	1,207	547	513	145	23.1	53.3	684
1952	973	421	1,046	1,790	441	726	794	509	138	55.3	99.1	21.8	523
1953	107	26.5	370	1,079	957	852	1,028	753	113	166	134	5.75	456
1954	145	1.41	197	830	407	1,116	669	302	180	459	558	147	408
1955	1,010	392	930	604	1,649	1,771	400	307	107	88.0	74.3	10.4	608
1956	56.1	202	294	601	1,811	1,589	710	728	695	465	976	195	690
1957	152	325	1,307	1,492	1,628	652	847	199	357	184	10.3	11.4	591
1958	174	169	1,060	792	907	884	1,146	1,094	366	1,302	974	102	749
1959	68.3	242	335	1,006	786	668	888	562	281	112	118	36.0	423
1960	95.9	693	962	1,203	759	800	864	447	100	88.9	181	342	544

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.03	2.91	5.18	4.59	5.38	4.31	4.86	2.28	2.07	0.61	0.10	0.21	33.53
1952	.04	1.70	4.35	7.45	1.72	3.02	3.20	2.95	.55	.23	.41	.09	25.71
1953	.04	.11	1.54	4.49	3.60	3.54	4.14	3.13	.45	.69	.56	.02	22.31
1954	.006	.006	.82	3.46	1.53	4.65	2.69	1.26	.73	1.91	2.32	.59	19.97
1955	.421	1.58	3.87	2.51	6.20	7.37	1.61	1.28	.43	.37	.31	.04	29.78
1956	.23	.81	1.22	2.50	7.05	6.61	2.86	3.03	2.80	1.93	4.06	.79	33.89
1957	.63	1.31	5.44	6.21	6.12	2.72	3.41	.83	1.44	.77	.04	.05	28.97
1958	.72	.68	4.41	3.30	3.41	3.68	4.62	4.55	1.47	5.42	4.06	.41	36.73
1959	.28	.98	1.40	4.19	2.95	2.78	3.58	2.34	1.13	.47	.49	.14	20.73
1960	.40	2.79	4.01	5.01	2.96	3.33	3.48	1.86	.40	.37	.75	1.38	26.74

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	882	43.24
1951	1205	7,800	(a)	9.5	684	2.47	33.53	622	30.50
1952	1235	7,500	Jan. 28, 1952	6.2	523	1.89	25.71	434	21.31
1953	1275	3,970	Jan. 9, 1953	3.3	456	1.65	22.31	438	21.45
1954	1335	4,390	Jan. 17, 1954	.5	408	1.47	19.97	588	28.80
1955	1385	8,700	Oct. 16, 1954	2.7	608	2.19	29.78	457	22.38
1956	1435	8,400	Aug. 6, 1956	7.3	690	2.49	33.89	794	39.01
1957	1505	8,380	Feb. 10, Jan. 30	2.5	591	2.13	28.97	559	27.40
1958	1555	6,840	July 24, 1958	8	749	2.70	36.73	685	33.58
1959	1625	5,720	Jan. 22, 1959	3.6	423	1.53	20.73	516	25.27
1960	1705	4,740	(b)	4.4	544	1.96	26.74	-	-

a Dec. 4, 1950, Feb. 1, 1951.

b Nov. 28, 1959, Mar. 31, 1960.

545. Tygart River at Philippi, W. Va.

Location.--Lat 39°09'00", long 80°02'25", on right bank at Philippi, Barbour County, 0.2 mile downstream from Anglins Run and 5 miles downstream from Buckhannon River.

Drainage area.--916 sq mi.

Records available.--April 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,280.55 ft above mean sea level, datum of 1929. Prior to May 23, 1940, staff gage at same site and datum.

Average discharge.--20 years (1940-60), 1,822 cfs.

Extremes.--1940-60: Maximum discharge, 33,600 cfs Oct. 16, 1954 (gage height, 24.10 ft); minimum, 4.9 cfs Oct. 10-12, 21, 1953; minimum gage height, 0.92 ft Sept. 9, 10, 1957. Maximum stage known, 27.3 ft July 25, 1912, read on U.S. Weather Bureau gage a quarter of a mile downstream, or about 26 ft, present site and datum (discharge, about 37,000 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	691	2,016	3,921	3,232	4,164	3,085	3,820	2,011	2,081	630	67.6	161	2,142
1952	520	1,106	3,188	5,620	1,428	2,458	2,803	2,474	384	168	231	52.8	1,671
1953	37.1	77.6	1,049	3,311	3,149	2,935	3,280	2,594	411	427	484	19.6	1,473
1954	5.88	11.4	559	2,807	1,447	3,686	2,165	1,152	586	1,355	1,604	452	1,307
1955	3301	1,334	3,021	1,784	5,084	5,483	1,270	1,139	322	259	295	28.5	1,931
1956	138	610	877	1,705	5,987	4,876	2,426	2,677	2,514	1,579	2,808	488	2,211
1957	473	846	3,763	4,707	5,061	2,051	2,666	640	878	541	35.7	27.8	1,788
1958	478	490	3,315	2,417	2,804	3,034	3,905	3,442	1,068	3,753	3,107	279	2,347
1959	168	659	971	3,126	2,317	2,153	2,680	1,776	797	295	248	81.2	1,266
1960	330	1,884	3,068	3,851	2,142	2,928	3,211	1,815	376	254	487	1,171	1,793

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.87	2.46	4.93	4.07	4.73	3.88	4.65	2.53	2.53	0.79	0.08	0.20	31.72
1952	.07	1.35	4.01	7.07	1.68	3.09	3.41	3.11	.47	.21	.29	.06	24.82
1953	.05	.09	1.32	4.17	3.58	3.69	4.00	3.26	.50	.54	.61	.02	21.83
1954	4.007	.01	.70	3.28	1.64	4.64	2.64	1.45	.71	1.71	2.02	.55	19.36
1955	4.16	1.62	3.80	2.25	5.78	6.90	1.65	1.43	.39	.33	.37	.03	28.61
1956	.17	.74	1.10	2.15	7.05	6.14	2.95	3.37	3.06	1.99	3.53	.59	32.84
1957	.60	1.03	4.74	5.92	5.75	2.58	3.25	.81	1.07	.68	.04	.03	28.50
1958	.60	.60	4.17	3.04	3.19	3.82	4.76	4.33	1.30	4.72	3.91	.34	34.78
1959	.21	.80	1.22	3.93	2.63	2.71	3.26	2.24	.97	.37	.31	.10	18.75
1960	.42	2.29	3.86	4.85	2.52	3.68	3.91	2.28	.46	.32	.61	1.43	26.63

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches		Mean	Runoff in inches
		Discharge	Date							
1950	1205	-	-	-	-	-	-	-	2,558	37.90
1951	1205	22,800	Dec. 4, 1950	18	2,142	2.34	31.72	1,950	28.89	
1952	1235	22,000	Jan. 28, 1952	17	1,671	1.82	24.82	1,404	20.85	
1953	1275	13,000	Jan. 9, 1953	9.1	1,473	1.61	21.83	1,424	21.09	
1954	1335	14,500	Jan. 16, 1954	4.9	1,307	1.45	19.36	1,905	28.22	
1955	1385	33,600	Oct. 16, 1954	5.6	1,931	2.11	28.61	1,421	21.04	
1956	1435	24,200	Jan. 30, 1956	16	2,211	2.41	32.84	2,503	37.20	
1957	1505	28,300	Feb. 10, 1957	5.9	1,788	1.95	26.50	1,722	25.50	
1958	1555	20,300	July 23, 1958	20	2,347	2.56	34.78	2,136	31.65	
1959	1625	19,900	Jan. 22, 1959	10	1,266	1.38	18.75	1,559	23.09	
1960	1705	20,600	Mar. 31, 1960	15	1,793	1.96	26.63	-	-	

555. Tygart Reservoir near Grafton, W. Va.

Location.--Lat 39°18'50", long 80°02'00", at dam on Tygart River, 2.2 miles upstream from Threefork Creek and 2.4 miles upstream from Grafton, Taylor County, W. Va.

Drainage area.--1,184 sq mi.

Records available.--October 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level.

Extremes.--Maximum contents since storage began, 243,604 acre-ft July 26, 1958 (elevation, 1,152.72 ft); minimum since October 1939, 8,330 acre-ft Jan. 25, 1940 (elevation, 1,005.15 ft).

Remarks.--Reservoir is formed by concrete gravity dam completed and accepted February 1938; storage began May 15, 1938. Capacity, 286,600 acre-ft between elevations 991.5 ft (sill of valves) and 1,167.0 ft (crest of spillway) above mean sea level. Dead storage, 2,950 acre-ft. Figures given herein represent total contents. Conservation pool elevation is 1,010.0 ft and water below elevation 991.5 ft cannot be withdrawn. Reservoir is used for flood control and supplementary supply for navigation of Monongahela River during periods of low flow.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	64,900	16,800	17,200	37,800	14,400	36,100	80,100	115,400	120,400	109,500	80,800	65,000
1952	41,700	21,900	34,800	78,500	12,300	13,200	88,200	109,100	113,600	97,700	89,900	64,900
1953	38,600	22,500	11,900	19,700	21,800	47,700	78,900	110,500	115,100	107,100	95,300	65,100
1954	39,000	19,400	15,000	19,700	37,000	17,200	80,100	111,900	116,800	113,400	115,900	99,600
1955	79,000	26,400	85,600	13,100	36,500	11,700	69,900	111,500	109,500	103,500	95,100	64,800
1956	46,900	32,600	14,800	112,900	50,900	71,900	92,700	159,200	113,000	122,000	111,500	104,600
1957	93,000	37,200	21,800	98,700	20,500	35,200	92,500	112,800	118,100	101,300	77,000	57,500
1958	68,200	31,100	20,700	15,600	70,700	43,600	139,700	112,000	112,900	199,100	112,100	93,300
1959	67,800	35,500	13,800	25,000	12,800	26,200	92,200	112,100	112,900	109,400	97,700	71,300
1960	62,700	80,000	24,100	17,100	16,900	131,400	72,300	131,400	110,800	104,900	103,900	91,600

560. Tygart River at Tygart Dam, near Grafton, W. Va.

Location.--Lat 39°18'50", long 80°02'00", at Tygart Dam, 2.2 miles upstream from Threefork Creek and 2.4 miles upstream from Grafton, Taylor County.

Drainage area.--1,184 sq mi.

Records available.--June 1938 to September 1960.

Gage.--Water-stage recorder.

Average discharge.--22 years (1938-60), 2,292 cfs (unadjusted).

Extremes.--1938-60: Maximum discharge, 20,000 cfs Feb. 2, 1939; no flow Aug. 2, 1938.

Remarks.--Discharge computed from records of flow through gates and valves in dam. Flow regulated by Tygart Reservoir.

Cooperation.--Records furnished by Corps of Engineers.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,305	3,274	5,095	3,981	5,888	3,441	4,062	1,902	2,774	1,281	547	499	2,814
1952	421	1,820	4,086	6,472	3,001	3,132	2,195	2,837	382	477	445	474	2,151
1953	450	372	1,491	4,118	3,857	3,389	3,380	2,740	351	619	800	515	1,831
1954	416	341	715	2,946	1,337	4,811	1,594	888	560	1,469	2,023	906	1,509
1955	4,644	2,468	2,804	3,506	5,859	7,356	345	1,035	530	366	466	524	2,481
1956	471	1,058	1,375	667	9,046	5,796	2,650	2,711	4,191	1,871	3,805	797	2,844
1957	726	1,959	5,318	4,644	8,080	2,475	2,345	418	782	883	415	344	2,330
1958	468	1,256	4,555	5,312	2,586	4,266	2,963	4,886	1,241	3,585	5,444	650	2,953
1959	621	1,462	1,564	3,859	3,368	2,434	2,355	1,895	846	378	515	535	1,641
1960	497	2,034	4,801	4,911	2,771	1,664	5,060	1,529	949	394	759	1,663	2,248

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.75	2.32	4.97	4.20	4.81	3.69	4.52	2.38	2.72	1.07	0.08	0.22	31.73
1952	.04	1.41	4.18	6.99	1.69	3.07	3.26	3.09	.45	.21	.31	.05	24.73
1953	.02	.09	1.28	4.14	3.43	3.71	3.68	3.17	.40	.48	.59	.008	21.00
1954	- .009	.01	.63	2.94	1.45	4.37	2.50	1.37	.60	1.37	2.01	.60	17.84
1955	4.20	1.50	3.67	2.27	5.52	6.77	1.56	1.35	.47	.26	.32	.01	27.90
1956	.18	.77	1.06	2.20	7.26	5.97	2.82	3.69	3.21	1.96	3.54	.64	33.30
1957	.52	.96	4.93	5.74	5.86	2.64	3.11	.73	.82	.59	.02	.02	25.94
1958	.63	.60	4.27	3.11	3.18	3.72	4.32	4.32	1.18	4.86	3.92	.32	34.43
1959	.20	.87	1.18	3.92	2.77	2.58	3.27	2.16	.81	.31	.32	.09	18.48
1960	.35	2.19	3.79	4.67	2.56	3.40	3.84	2.42	.57	.29	1.37	1.57	26.17

a Adjusted for change in contents in Tygart Reservoir.

Note.--Negative figures indicate evaporation and seepage exceeds natural flow.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30								Calendar year		
		Observed				Adjusted a/				Observed		Adjusted a/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches		Mean	Mean	Runoff in inches
		Discharge	Date									
1950	1205	-	-	-	-	-	-	-	-	3,248	3,233	37.06
1951	1205	17,700	Feb. 5, 1951	352	2,814	2,769	2.34	31.73	2,534	2,559	29.32	
1952	1235	17,500	Jan. 30, 1952	255	2,151	2,151	1.82	24.73	1,815	1,783	20.49	
1953	1275	11,400	Jan. 13, 1953	254	1,831	1,831	1.55	21.00	1,760	1,764	20.25	
1954	1335	11,500	Mar. 16, 1954	167	1,509	1,557	1.32	17.84	2,220	2,318	26.58	
1955	1385	17,200	Mar. 10, 1955	163	2,481	2,433	2.05	27.90	1,889	1,791	20.54	
1956	1435	18,300	Feb. 10, 1956	262	2,844	2,899	2.45	33.30	3,273	3,283	37.70	
1957	1505	17,300	Feb. 14, 1957	245	2,330	2,265	1.91	25.94	2,185	2,183	25.06	
1958	1555	17,300	May 9, 1958	256	2,953	3,003	2.54	34.43	2,729	2,719	32.16	
1959	1625	12,000	Jan. 25, 1959	167	1,641	1,611	1.36	18.48	1,952	1,966	22.58	
1960	1705	18,200	Apr. 8, 1960	202	2,248	2,275	1.92	26.17	-	-	-	

a Adjusted for change in contents in Tygart Reservoir.

570. Tygart River at Colfax, W. Va.

Location.--Lat 39°26'15", long 80°07'55", on right bank at highway bridge at Colfax, Marion County, 300 ft upstream from Guysses Run and 6 miles upstream from confluence with West Fork River. Records include flow of Guysses Run.

Drainage area.--1,366 sq mi, including that of Guysses Run.

Records available.--May 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 855.49 ft above mean sea level (Baltimore & Ohio RR. datum). Since Jan. 19, 1945, auxiliary water-stage recorder 5.7 miles downstream at Fairmont waterworks.

Average discharge.--21 years (1939-60), 2,606 cfs (adjusted for storage)..

Extremes.--1939-60: Maximum discharge, 22,500 cfs Feb. 14, 1948 (gage height, 16.86 ft); maximum gage height, 16.95 ft Feb. 14, 1948 (backwater from West Fork River); minimum discharge, 94 cfs July 3, 1946; minimum daily, 129 cfs May 5-7, 1941.

Remarks.--Flow completely regulated by Tygart Reservoir.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,448	3,624	5,856	4,732	6,768	3,983	4,820	2,249	3,292	1,504	570	508	3,251
1952	423	2,049	4,782	7,459	3,410	3,635	2,643	3,476	447	532	594	476	2,501
1953	453	409	1,684	4,677	4,244	3,890	3,871	2,970	356	612	779	509	2,028
1954	422	359	720	3,066	1,598	5,190	1,922	1,034	577	1,415	2,359	951	1,625
1955	5,059	2,621	3,343	3,849	6,729	8,271	743	1,205	707	443	550	537	2,825
1956	540	1,177	1,495	1,030	9,816	6,529	3,173	3,359	4,523	4,306	1,076		3,250
1957	788	2,129	6,171	5,195	8,624	2,863	2,892	525	806	907	457	416	2,611
1958	666	1,429	5,337	3,724	3,076	4,605	3,407	5,181	1,353	4,043	5,745	739	3,294
1959	732	1,662	1,862	4,398	4,079	2,942	2,721	1,999	882	393	546	568	1,886
1960	542	2,174	5,283	5,485	3,390	2,317	5,366	1,949	1,057	429	864	1,953	2,562

Monthly and yearly runoff, in inches (adjusted) ^a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.77	2.30	4.93	4.28	4.84	3.66	4.54	2.35	2.79	1.12	0.09	0.20	31.87
1952	.04	1.41	4.21	6.89	1.79	3.08	3.19	3.22	.43	.23	.40	.04	24.93
1953	.02	.11	1.28	4.06	3.26	3.64	3.59	2.94	.35	.41	.49	.002	20.15
1954	.002	.007	.55	2.65	1.30	4.10	2.43	1.31	.54	1.15	2.03	.55	16.62
1955	3.99	1.42	3.63	2.26	5.45	6.64	1.68	1.31	.55	.29	.35	.02	27.59
1956	.21	.76	1.02	2.21	6.90	5.80	2.88	3.75	3.06	2.06	3.49	.78	32.92
1957	.50	.97	5.00	5.44	5.50	2.62	3.15	.72	.73	1.53	.05	.07	25.28
1958	.71	.66	4.36	3.04	3.13	3.52	4.11	3.99	1.12	4.60	3.66	.35	33.25
1959	.26	.92	1.27	3.86	2.95	2.66	3.12	1.96	.73	.28	.30	.10	18.41
1960	.34	2.01	3.69	4.53	2.70	3.50	3.57	2.46	.58	.28	.71	1.43	25.80

[†] Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted ^a /					Observed		
		Momentary maximum		Minimum day	Mean	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean
		Discharge	Date											
1950	1205	-	-	-	-	-	-	-	-	-	-	3,674	3,659	36.32
1951	1205	18,600	Feb. 5, 1951	385	3,251	2,206	2.35	31.87	2,945	2,970	29.53			
1952	1235	18,700	Jan. 30, 1952	277	2,501	2,501	1.83	24.93	2,106	2,074	20.68			
1953	1275	12,100	Jan. 15, 1953	242	2,028	2,028	1.48	20.15	1,938	1,942	19.30			
1954	1335	12,100	Mar. 16, 1954	188	1,625	1,673	1.22	16.62	2,429	2,527	25.10			
1955	1385	15,700	Oct. 16, 1954	293	2,825	2,777	2.03	27.59	2,165	2,067	20.54			
1956	1435	17,900	Feb. 11, 1956	327	3,250	3,305	2.42	32.92	3,745	3,619	37.40			
1957	1505	16,900	Feb. 14, 1957	334	2,611	2,546	1.86	25.28	2,472	2,470	24.54			
1958	1555	17,400	May 9, 1958	326	3,294	3,344	2.45	33.25	3,024	3,014	29.97			
1959	1625	11,800	Jan. 25, 1959	210	1,886	1,856	1.36	18.41	2,202	2,216	22.00			
1960	1705	18,100	Apr. 8, 1960	282	2,562	2,590	1.88	25.80	-	-	-			

^a Adjusted for change in contents in Tygart Reservoir.

575. Skin Creek near Brownsville, W. Va.

Location.--Lat 38°58'30", long 80°26'40", on right bank 0.6 mile upstream from Gladly Fork, 2.6 miles southeast of Brownsville, Lewis County, 3.0 miles upstream from mouth, and 4.7 miles southeast of Weston.

Drainage area.--25.7 sq mi.

Records available.--October 1945 to September 1960. Prior to October 1947, published as "near Weston."

Gage.--Water-stage recorder. Altitude of gage is 1,030 ft (from topographic map). Prior to Feb. 5, 1946, staff gage at same site and datum.

Average discharge.--15 years (1945-60), 41.4 cfs.

Extremes.--1945-60: Maximum discharge, 2,280 cfs Feb. 10, 1957; maximum gage height, 8.64 ft June 25, 1950; no flow at times during 1951-55, 1957-59.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	10.6	59.3	111	101	112	94.5	96.2	16.9	63.3	4.72	0.178	0.947	55.5
1952	.054	51.7	90.1	145	30.6	53.8	64.0	30.5	3.39	.790	9.97	.252	38.6
1953	.018	.994	21.8	78.9	57.1	60.4	65.7	43.1	2.60	5.67	3.63	0	28.2
1954	0	0	5.68	44.7	21.4	73.3	37.0	11.6	3.59	44.9	29.2	12.4	23.8
1955	72.2	22.9	73.3	41.1	132	139	26.9	19.1	6.25	.430	.739	.172	44.1
1956	7.74	16.8	16.9	56.7	138	129	36.2	44.6	43.3	18.9	52.9	9.35	47.3
1957	6.85	14.9	120	96.1	111	38.7	60.6	7.63	5.96	3.50	.089	.206	38.4
1958	9.39	7.99	85.8	61.2	73.4	46.7	56.7	61.3	8.45	54.4	68.7	6.41	45.1
1959	10.6	17.7	15.6	71.2	49.9	43.6	58.4	54.9	28.5	2.89	3.44	.537	29.6
1960	7.15	45.0	58.8	95.6	78.2	50.7	44.9	30.6	3.90	10.3	30.2	50.0	42.0

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.47	2.57	4.98	4.55	4.55	4.24	4.18	0.76	2.75	0.21	0.008	0.04	29.31
1952	.002	1.38	4.04	6.52	1.28	2.42	2.78	1.37	.15	.04	.45	.01	20.44
1953	.0008	.04	.98	3.54	2.31	2.71	2.85	1.93	.11	.25	.16	0	15.88
1954	0	0	.25	2.00	.87	3.29	1.61	.52	.16	2.01	1.31	.54	12.56
1955	5.24	.99	3.29	1.84	5.34	6.22	1.17	.86	.27	.02	.03	.007	23.28
1956	.35	.73	.76	2.54	5.79	5.78	1.57	2.00	1.88	.85	2.37	.41	25.03
1957	.31	.65	5.40	4.31	4.49	1.74	2.63	.34	.26	.16	.004	.009	20.30
1958	.42	.35	3.85	2.75	2.98	2.10	2.46	2.75	.37	2.44	3.08	.28	23.83
1959	.47	.77	.70	3.19	2.02	1.96	2.54	2.46	1.24	.13	.15	.02	15.65
1960	.32	1.96	2.64	4.29	3.28	2.28	1.95	1.37	.17	.49	1.35	2.17	22.27

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1950	1205	-	-	-	-	-	-	67.7		35.74	
1951	1205	1,480	Feb. 1, 1951	0	55.5	2.16	29.31	50.6		26.71	
1952	1235	1,240	Jan. 28, 1952	0	38.6	1.50	20.44	30.3		16.04	
1953	1275	765	May 22, 1953	0	28.2	1.10	14.88	26.8		14.11	
1954	1335	760	Mar. 1, 1954	0	23.8	.926	12.56	37.5		19.83	
1955	1385	2,000	Oct. 15, 1954	0	44.1	1.72	23.28	33.3		17.60	
1956	1435	1,440	Mar. 14, 1956	.08	47.3	1.84	25.03	55.8		29.55	
1957	1505	2,280	Feb. 10, 1957	0	38.4	1.49	20.30	35.1		18.56	
1958	1555	1,060	Dec. 26, 1957	0	45.1	1.75	23.83	40.0		21.15	
1959	1625	878	Jan. 20, 1959	0	29.6	1.15	15.65	35.3		18.63	
1960	1705	1,480	Sept. 12, 1960	.1	42.0	1.63	22.27	-		-	

580. West Fork River at Brownsville, W. Va.

Location.--Lat 39°00'10", long 80°28'35", on right bank at downstream side of highway bridge at Brownsville, Lewis County, 0.4 mile downstream from Skin Creek and 2.5 miles south of Weston.

Drainage area.--102 sq mi.

Records available.--August 1946 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,010.85 ft above mean sea level, unadjusted (levels by Corps of Engineers). Prior to Aug. 15, 1949, wire-weight gage at same site and datum.

Average discharge.--14 years (1946-60), 169 cfs.

Extremes.--1946-60: Maximum discharge, 6,420 cfs June 25, 1950 (gage height, 17.20 ft); no flow for several days in 1951-54.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	67.0	240	416	530	447	397	358	96.5	197	31.7	4.52	4.77	214
1952	.519	108	299	535	159	225	280	139	17.5	5.44	18.7	1.60	146
1953	.58	1.99	85.0	522	252	258	288	158	15.1	16.3	12.1	.41	117
1954	.519	1.347	18.1	165	91.6	316	174	58.9	16.8	188	164	44.4	104
1955	288	94.1	285	185	519	536	125	82.4	49.1	5.10	3.82	1.57	180
1956	20.2	51.3	65.8	202	581	506	165	209	207	98.6	225	40.2	196
1957	18.0	49.4	451	365	475	169	216	24.6	23.3	19.6	1.08	1.41	149
1958	34.6	32.5	356	268	300	212	269	270	65.7	267	275	15.7	196
1959	21.3	49.7	68.1	278	195	160	265	246	108	9.89	15.3	4.58	118
1960	22.2	16	246	360	308	202	202	147	16.2	43.9	100	154	164

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.76	2.63	4.70	3.72	4.56	4.48	3.92	1.09	2.15	0.56	0.05	0.05	28.47
1952	.006	1.18	3.38	6.03	1.47	2.52	2.84	1.57	.19	.06	.21	.02	19.48
1953	.007	.02	.94	3.64	2.58	2.92	3.15	1.78	.17	.18	.14	.005	15.53
1954	.006	.004	.20	1.84	.93	3.57	1.91	.67	.18	2.12	1.86	.49	13.78
1955	3.25	1.05	3.22	2.09	5.30	6.06	1.57	.95	.54	.06	.04	.02	23.91
1956	.23	.56	.72	2.28	6.14	5.72	1.80	2.36	2.27	1.11	2.52	.44	26.15
1957	.20	.54	5.09	4.13	4.85	1.91	2.56	.28	.25	.22	.01	.02	19.84
1958	.39	.56	3.80	3.03	3.06	2.40	2.94	3.05	.72	5.02	3.11	.17	26.05
1959	.24	.54	.77	3.14	1.97	1.81	2.90	2.78	1.18	.11	.17	.05	15.66
1960	.25	1.93	2.78	4.07	3.26	2.29	2.21	1.66	.18	.50	1.13	1.69	21.95

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205			-	-	-	-	269	35.87
1951	1205	4,230	Feb. 1, 1951	1.0	214	2.10	28.47	188	24.95
1952	1235	3,570	Jan. 28, 1952	0	146	1.43	19.48	119	15.88
1953	1275	1,800	Jan. 8, 1953	0	117	1.15	15.53	111	14.78
1954	1335	2,360	July 22, 1954	0	104	1.02	13.78	158	21.07
1955	1385	4,640	Oct. 15, 1954	.2	180	1.76	23.91	135	17.92
1956	1435	3,320	Jan. 30, 1956	.6	196	1.92	26.15	228	30.47
1957	1505	5,240	Feb. 10, 1957	.2	149	1.46	19.84	139	18.56
1958	1555	2,300	Dec. 26, 1957	.7	196	1.92	26.05	173	23.05
1959	1625	1,980	May 14, 1959	.5	118	1.16	15.66	143	19.07
1960	1705	2,900	Sept. 12, 1960	1.0	164	1.61	21.95	-	-

585. West Fork River at Butcher ville, W. Va.

Location.--Lat 39°05'25", long 80°28'05", on right bank at Butcher ville, Lewis County, 0.5 mile upstream from Freemans Creek, 3,500 ft downstream from abandoned bridge, previously used by Weston-Clarksburg interurban electric railway, and 3 miles north of Weston.

Drainage area.--181 sq mi.

Records available.--April 1915 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 993.0 ft above mean sea level (State Road Commission bench mark). Prior to Feb. 17, 1937, chain gage at interurban bridge 3,500 ft upstream. Feb. 17, 1937, to Apr. 7, 1939, staff gage at site 2,500 ft upstream. Prior to Oct. 1, 1942, at datum 10.0 ft lower.

Average discharge.-- 45 years (1915-60), 305 cfs.

Extremes.--1915-60: Maximum discharge, 18,000 cfs June 25, 1950 (gage height, 16.81 ft), from rating curve extended above 7,500 cfs on basis of slope-area measurement of peak flow; no flow at times during October 1919, September, October, December, 1922, caused by either diversion or pondage at small dam upstream. Maximum stage known, 17 ft in 1888 at site 3,500 ft upstream, present datum, from information by local residents. The stage on that day may have been affected by back-water from a dam which has since been washed out.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	110	427	728	611	798	657	617	164	321	112	9.44	15.4	378
1952	2.38	233	606	935	254	401	449	266	32.0	12.7	49.2	2.58	271
1953	1.04	3.97	133	540	424	432	463	326	62.2	73.4	25.4	.933	206
1954	.574	.873	36.9	271	136	496	293	110	47.9	299	231	67.6	167
1955	501	167	510	311	924	939	226	131	68.5	11.2	10.9	3.22	316
1956	57.4	89.7	128	369	1,045	927	288	329	324	161	390	58.7	345
1957	32.9	77.0	829	634	875	278	403	55.2	34.8	50.4	1.43	4.31	268
1958	79.5	59.3	616	486	550	376	493	511	106	628	501	36.4	371
1959	38.2	81.7	121	494	374	294	439	385	19.4	16.9	22.1	10.5	205
1960	38.9	292	417	608	564	392	348	299	78.4	96.8	274	299	308

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.70	2.63	4.64	3.89	4.59	4.19	3.80	1.04	1.98	0.71	0.06	0.09	28.32
1952	.02	1.44	3.86	5.95	1.51	2.56	2.77	1.69	.20	.08	.31	.02	20.41
1953	.007	.02	.84	3.44	2.44	2.75	2.85	2.07	.38	.47	.16	.008	15.43
1954	.004	.005	.23	1.73	.78	3.16	1.80	.70	.30	1.90	1.47	.42	12.50
1955	3.19	1.03	3.25	1.98	5.31	5.98	1.39	.84	.55	.07	.07	.02	23.68
1956	.37	.55	.81	2.35	6.23	5.90	1.78	2.09	2.00	1.02	2.48	.36	25.94
1957	.21	.47	5.28	4.04	5.02	1.77	2.48	.35	.21	.19	.009	.03	20.06
1958	.51	.37	3.93	3.10	3.17	2.40	3.04	3.26	.66	4.00	3.19	.22	27.85
1959	.24	.50	.77	3.15	2.15	1.87	2.71	2.45	1.20	.11	.14	.06	15.35
1960	.25	1.80	2.66	3.87	3.36	2.50	2.15	1.90	.48	.62	1.75	1.84	23.18

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	499	37.45
1951	1205	7,630	Feb. 1, 1951	1.9	378	2.09	28.32	342	25.67
1952	1235	5,200	Jan. 28, 1952	.5	271	1.50	20.41	212	15.96
1953	1275	3,320	Jan. 8, 1953	.3	206	1.14	15.43	198	14.80
1954	1335	3,070	July 21, 1954	.4	167	.923	12.50	265	19.73
1955	1365	7,500	Oct. 16, 1954	.8	316	1.75	23.68	239	17.94
1956	1435	5,600	Jan. 30, 1956	2.0	345	1.91	25.94	401	30.17
1957	1505	10,400	Feb. 10, 1957	.5	268	1.48	20.06	252	18.91
1958	1555	5,900	July 23, 1958	.8	371	2.05	27.85	327	24.55
1959	1625	3,860	Jan. 20, 1959	1.0	205	1.13	15.35	247	18.55
1960	1705	4,310	Sept. 12, 1960	2.2	308	1.70	23.18	-	-

590. West Fork River at Clarksburg, W. Va.

Location.--Lat 39°16'05", long 80°21'25", on right bank at dam at Clarksburg waterworks, three-quarters of a mile south of Clarksburg, Harrison County, and 1 mile upstream from Elk Creek.

Drainage area.--384 sq mi.

Records available.--March 1923 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 931.82 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944. Sept. 5, 1944, to June 1954 auxiliary staff gage, at site 100 ft downstream. Since June 12, 1954, supplementary water-stage recorder at site 500 ft downstream at datum 10 ft lower.

Average discharge.--37 years (1923-60), 599 cfs (adjusted for diversion).

Extremes.--1923-60: Maximum discharge, 16,900 cfs June 25, 1950 (gage height, 11.5 ft in gage well, 11.8 ft from floodmark referred to outside gage); no flow over dam during parts of several years.

Remarks.--Some water diverted for supply of city of Clarksburg. Occasional regulation at low flow by five reservoirs (combined capacity, 635,000,000 gal).

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	140	854	1,491	1,267	1,702	1,270	1,202	339	828	395	19.9	39.5	789
1952	0	473	1,547	1,878	592	868	892	613	74.8	30.4	89.9	5.01	573
1953	0	003	4.13	224	1,067	844	869	740	108	95.1	48.7	0	403
1954	0	0	34.4	435	188	916	563	232	87.6	425	461	114	290
1955	892	295	980	603	1,809	1,894	445	225	142	168	140	34.9	630
1956	167	246	278	724	2,163	1,907	804	598	791	304	824	131	723
1957	61.2	165	1,781	1,315	1,641	560	828	139	35.4	48.8	1.56	18.3	544
1958	274	149	1,392	943	1,149	711	922	1,078	176	1,566	957	86.7	785
1959	82.6	152	280	1,035	900	562	800	802	270	38.9	26.5	17.9	394
1960	58.6	463	766	1,155	1,197	840	724	694	157	117	569	371	591

Monthly and yearly runoff, in inches (adjusted)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.44	2.50	4.50	3.83	4.63	3.84	3.51	1.04	2.43	1.21	0.09	0.14	28.16
1952	.02	1.40	4.07	5.66	1.65	2.63	2.61	1.87	.24	.12	.30	.03	20.60
1953	.02	.03	.69	3.23	2.31	2.63	2.52	2.25	.34	.31	.17	.02	14.52
1954	.02	.02	.12	1.33	.52	2.77	1.65	.72	.28	1.30	1.41	.35	10.49
1955	2.70	.87	2.96	1.83	4.92	5.71	1.32	.70	.44	.53	.45	.12	22.55
1956	.52	.74	.86	2.19	6.09	5.75	1.77	1.82	2.32	.94	2.50	.40	25.90
1957	.21	.50	5.37	3.98	4.47	1.71	2.43	.44	.13	.18	.03	.08	19.53
1958	.84	.45	4.20	2.86	3.13	2.16	2.70	3.25	.53	4.72	2.89	.27	28.00
1959	.27	.46	.86	3.12	2.46	1.71	2.34	1.83	.80	.14	.10	.07	14.16
1960	.20	1.36	2.32	3.49	3.39	2.55	2.12	2.10	.48	.37	1.73	1.10	21.21

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted			Observed		Adjusted
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	1205	-	-	-	-	-	-	-	942	950	33.82
1951	1205	14,400	Feb. 1, 1951	0	789	797	2.08	28.16	733	741	26.21
1952	1235	9,180	Jan. 28, 1952	0	573	581	1.51	20.60	440	448	15.85
1953	1275	6,140	Jan. 9, 1953	0	403	411	1.07	14.52	387	394	13.90
1954	1335	4,440	Mar. 2, 1954	0	290	296	.771	10.49	470	477	16.86
1955	1385	10,600	Oct. 16, 1954	1.3	630	639	1.66	22.55	505	513	18.14
1956	1435	10,500	Jan. 30, 1956	6.5	723	731	1.90	25.90	835	843	29.86
1957	1505	12,900	Feb. 10, 1957	.9	544	553	1.44	19.53	527	536	18.94
1958	1555	8,580	July 24, 1958	2.1	785	792	2.06	28.00	675	682	24.10
1959	1625	6,960	Jan. 21, 1959	1.1	394	401	1.04	14.16	459	466	16.45
1960	1705	7,390	Jan. 15, 1960	.6	591	598	1.56	21.21	-	-	-

MONONGAHELA RIVER BASIN

595. Elk Creek at Quiet Dell, W. Va.

Location.--Lat 39°13'40", long 80°17'50", on left bank 200 ft downstream from highway bridge at Quiet Dell, Harrison County, 0.9 mile upstream from Brushy Fork.

Drainage area.--84.6 sq mi.

Records available.--September 1943 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 960.72 ft above mean sea level, adjustment of 1912 (State Road Commission bench mark). Prior to June 29, 1958, wire-weight and crest-stage gages at site 200 ft upstream at same datum.

Average discharge.--17 years (1943-60), 124 cfs.

Extremes.--1943-60: Maximum gage height, 17.4 ft Feb. 10, 1957 (discharge not determined); minimum observed, 0.2 cfs Sept. 14, 1952; minimum gage height observed, 1.79 ft Sept. 10, 1946.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	25.3	141	305	247	331	223	210	79.3	212	198	11.1	16.8	165
1952	7.10	102	2.90	385	125	191	180	159	19.9	8.31	17.5	2.06	124
1953	1.78	5.02	43.3	219	168	211	161	189	8.81	22.0	41.7	1.92	89.2
1954	.629	1.68	11.8	81.8	32.9	175	120	54.2	13.4	23.5	97.8	33.3	54.2
1955	234	55.6	216	128	369	352	91.9	38.4	18.5	6.26	40.8	6.19	129
1956	24.2	65.2	48.0	151	508	368	132	111	207	80.0	254	34.8	164
1957	18.4	37.7	370	271	414	129	185	39.6	15.2	9.32	4.26	7.70	123
1958	54.3	23.4	287	170	232	124	150	217	30.7	338	198	22.4	154
1959	22.3	38.2	55.6	210	193	130	182	132	27.6	12.4	6.43	2.67	85.7
1960	11.6	84.1	164	227	258	177	168	147	38.6	12.5	65.3	73.8	118

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.34	1.86	4.16	3.37	4.08	3.04	2.76	1.08	2.79	2.70	0.15	0.22	26.55
1952	.10	1.34	3.96	5.25	1.60	2.60	2.37	2.17	.26	.11	.24	.03	20.03
1953	.02	.07	.59	2.98	2.07	2.68	2.12	2.58	.12	.30	.57	.03	14.33
1954	.01	.02	.16	1.11	.40	2.39	1.59	.74	.18	.32	1.33	.44	8.69
1955	3.19	.73	2.94	1.74	4.54	4.80	1.21	.52	.24	.09	.56	.08	20.64
1956	.33	.86	.65	2.06	6.48	5.01	1.74	1.51	2.73	1.09	3.46	.46	26.38
1957	.25	.50	5.04	3.69	5.09	1.76	2.44	.54	.20	.13	.06	.10	19.80
1958	.74	.31	3.91	2.31	2.85	1.70	1.98	2.96	.40	4.60	2.70	.30	24.76
1959	.30	.50	.76	2.86	2.37	1.78	2.40	1.80	.36	.17	.09	.04	13.43
1960	.16	1.11	2.23	3.09	3.28	2.41	2.22	2.00	.51	.17	.89	.97	19.04

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1305	-	-	-	-	-	-	159	25.51
1951	1205	3,790	Feb. 1, 1951	2.9	165	1.95	26.55	159	25.59
1952	1235	2,330	Jan. 27, 1952	.2	124	1.47	20.03	95.1	15.31
1953	1275	2,180	May 6, 1953	.4	89.2	1.05	14.33	86.2	13.84
1954	1355	926	Apr. 17, 1954	.3	54.2	.641	8.69	95.8	15.36
1955	1385	5,090	Oct. 15, 1954	.6	129	1.52	20.64	97.4	15.62
1956	1435	4,230	Aug. 6, 1956	3.4	164	1.94	26.38	189	30.33
1957	1505	(a)	Feb. 10, 1957	.5	123	1.45	19.80	118	18.97
1958	1555	1,750	(b)	2.8	154	1.82	24.76	133	21.36
1959	1625	1,470	May 14, 1959	.5	83.7	.989	13.43	95.7	15.37
1960	1705	1,710	Sept. 12, 1960	2.2	118	1.39	19.04	-	-

a Not determined.

b Equal peaks Dec. 26, 1957, May 5, Aug. 8, 1958.

600. Salem Fork subwatershed No. 11A (Varner Hollow Run) near Salem, W. Va.

Location.--Lat 39°18'25", long 80°34'25", at Mason Dam on Varner Hollow Run, a tributary to Jacobs Run, 0.8 mile upstream from mouth and 2 miles northwest of Salem, Harrison County.

Drainage area.--0.29 sq mi.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder and drop inlet. Datum of gage is 1,127.27 ft above mean sea level (Soil Conservation Service bench mark).

Average discharge.--6 years (1954-60), 0.427 cfs.

Extremes.--1954-60: Maximum outflow, 11 cfs Aug. 6, 1956 (gage height, 13.95 ft); no flow for several days each year. Maximum inflow, 174 cfs Aug. 5, 1956 (average for 15-minute interval), computed from outflow and change in reservoir contents.

Remarks.--Records of daily discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure. Reservoir is formed by earth dam; dam completed and storage began October 1954. Outlet structure is 3x3x17-foot concrete drop inlet connected to a 24-inch steel outlet pipe. Top of drop inlet is at elevation 1,140.9 ft. A 12-inch steel pipe is set in one side of the drop inlet at elevation 1,133.1 ft. There is an emergency spillway at elevation 1,145.6 ft. Top of dam embankment is 1,151 ft. Available capacity, 47 acre-ft between elevations 1,131.1 ft (top of steel pipe) and 1,145.6 ft (crest of spillway). Records of chemical analyses for period October 1955 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	0.289	0.131	0.911	0.436	1.45	1.04	0.583	0.059	0.019	0	0.075	0.001	0.410
1956	.041	.149	.115	.481	1.48	1.64	.408	.422	.499	.186	.874	.053	.526
1957	.028	.022	1.19	.870	1.00	.504	.737	.061	0	0	0	0	.548
1958	.048	.220	1.34	.723	.895	.372	.551	.828	.058	.985	.492	.190	.560
1959	.045	.143	.248	1.03	.752	.361	.640	.350	.067	0	.010	0	.300
1960	0	.212	.484	.717	.886	.704	.393	.696	.044	.094	.570	.218	.418

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-
1955	7.56	7.61	8.13	7.49	8.87	7.63	7.58	7.17	6.91	6.85	7.27	6.96
1956	7.64	7.48	7.46	8.07	7.94	7.75	7.46	7.64	7.42	7.49	7.46	7.34
1957	7.36	7.49	7.96	8.05	8.49	7.54	7.48	7.15	7.01	6.10	5.64	6.46
1958	7.41	7.78	7.56	8.03	7.98	8.00	8.13	7.15	7.32	9.13	7.53	7.51
1959	7.22	7.66	7.48	7.59	7.54	7.44	7.82	7.24	7.03	7.17	7.01	6.15
1960	7.08	7.71	7.66	7.59	7.75	9.00	7.37	7.56	7.19	7.24	7.29	7.22

Note.--Contents for water years 1955-57, not previously published.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Maximum outflow		Maximum inflow		Minimum daily outflow	Mean outflow	Mean outflow	
		Discharge	Date	Discharge <i>a</i>	Date				
1955	1505	8.6	Dec. 30, 1954, Feb. 6, 1955	b47	Dec. 29, 1954	0	0.410	0.323	
1956	1505	11.0	Aug. 6, 1956	b174	Aug. 5, 1956	0	.526	.606	
1957	1505	10.4	Dec. 14, 1956	b53	Dec. 14, 1956	0	.348	.379	
1958	1555	9.8	May 5, 1958	80	Aug. 8, 1958	0	.560	.460	
1959	1625	7.2	Jan. 22, 1959	b44	May 4, 1959	0	.500	.322	
1960	1705	8.2	Jan. 15, 1960	b67	Aug. 4, 1960	0	.418	-	

a Average for 15-minute interval; computed from outflow and change in reservoir contents, and adjusted for rainfall on reservoir surface during time of peak flow when rainfall records were available.

b Missing rainfall records.

MONONGAHELA RIVER BASIN

601. Salem Fork subwatershed No. 9 (West Branch Patterson Fork)
near Salem, W. Va.

Location.--Lat 39°16'15", long 80°34'15", at Stonestreet Dam on West Branch Patterson Fork, 0.8 mile upstream from mouth and 1.2 miles southwest of Salem, Harrison County.

Drainage area.--0.92 sq mi.

Records available.--January 1956 to September 1960.

Gage.--Water-stage recorder and concrete drop inlet. Datum of gage is 1,079.80 ft above mean sea level (Soil Conservation bench mark).

Extremes.--1956-60: Maximum outflow, 25.8 cfs Dec. 14, 1956 (gage height, 19.80 ft); no flow for several days in 1957-60. Maximum inflow, 416 cfs Aug. 4, 1960 (average for 15-minute interval) computed from outflow and change in reservoir contents.

Remarks.--Records of daily discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure. Reservoir is formed by earth dam; dam completed and storage began in January 1956. Outlet structure is a 3- by 3-foot concrete drop inlet, connected to a 24-inch concrete outlet pipe. Top of drop inlet is at elevation 1,104.0 ft. A 16-inch steel pipe is set in one side of the drop inlet at elevation 1,008.1 ft. There is an emergency spillway at elevation 1,105.1 ft. Top of dam embankment is 1,111.2 ft. Available capacity, 162 acre-ft between elevations 1,088.1 ft (top of steel pipe) and 1,105.1 ft (crest of spillway). Records of chemical analyses for the period October 1959 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	5.22	4.89	2.23	2.27	1.47	0.989	2.20	0.415	-
1957	0.136	0.333	4.60	2.70	3.59	1.42	2.95	.587	.047	.016	0	.008	1.34
1958	.334	.943	4.57	2.27	2.73	1.53	2.28	2.89	.752	3.43	1.13	.558	1.95
1959	.203	.760	.830	2.76	2.39	1.29	2.91	1.82	.259	.030	.020	0	1.10
1960	.064	.737	1.63	2.49	2.74	2.35	1.69	3.23	.179	.131	2.32	.559	1.51

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1956	-	-	-	35.80	21.91	21.60	20.34	21.32	19.84	20.03	20.03	19.47
1957	19.75	20.18	21.74	22.20	25.18	20.54	20.18	19.29	20.06	18.01	16.77	19.13
1958	20.24	21.84	20.72	21.77	22.53	22.24	24.42	19.44	19.84	20.24	20.48	20.27
1959	19.47	21.10	20.09	20.68	20.62	20.48	21.60	19.75	19.32	19.88	19.10	17.79
1960	19.41	20.82	21.10	20.93	21.28	35.51	20.34	20.93	19.29	19.47	19.41	19.50

Note.--Contents in acre-feet for water year 1956-57, not previously published.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Maximum outflow		Maximum inflow		Minimum daily outflow	Mean outflow	Mean outflow	
		Discharge	Date	Discharge a/	Date				
1956	1505	-	-	-	-	-	-	-	-
1957	1505	25.8	Dec. 14, 1956	355	Dec. 14, 1956	0	1.34	1.40	
1958	1555	21.6	May 5, 1958	b204	May 5, 1958	0	1.95	1.61	
1959	1625	17.5	Apr. 10, 1959	b168	Apr. 10, 1959	0	1.10	1.15	
1960	1705	20.1	Aug. 4, 1960	416	Aug. 4, 1960	0	1.51	-	

a Average for 15-minute interval; computed from outflow and change in reservoir contents, and adjusted for rainfall on reservoir surface during time of peak inflow.

b Missing rainfall record.

605. Salem Fork at Salem, W. Va.

Location.--Lat 39°17'10", long 80°32'35", on left bank 0.2 mile downstream from Dog Run, 0.8 mile upstream from Cherrycamp Run, and 0.9 mile northeast of Salem, Harrison County.

Drainage area.--8.32 sq mi.

Records available.--January 1951 to September 1960.

Gage.--Water-stage recorder with artificial control. Datum of gage is 1,026.04 ft above mean sea level, adjustment of 1944. Prior to Apr. 20, 1951, staff gage on left bank 400 ft downstream at same datum.

Average discharge.--9 years (1951-60), 11.5 cfs.

Extremes.--1951-60: Maximum discharge, 2,280 cfs Aug. 22, 1955 (gage height, 11.88 ft, from floodmarks); no flow during several months of various years.

The flood of June 25, 1950, reached a stage of 13.6 ft, from floodmarks (discharge, 2,900 cfs, from rating curve extended above 1,000 cfs on basis of slope-area measurement of peak flow).

Remarks.--The flow from 1,294 acres above station was partly controlled, but not diverted, by six floodwater detention reservoirs with a total combined detention capacity of 329 acre-ft below the emergency spillways. A seventh, and last, detention reservoir was completed in September 1958 with a drainage area of 204 acres and a capacity of 47 acre-ft below the emergency spillway. There is also a municipal water-supply reservoir having a drainage area of 566 acres and a capacity of 155 acre-ft. The first detention reservoir in this basin was completed in October 1954. Records of chemical analyses for the period October 1959 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	39.2	27.3	27.3	23.0	2.68	38.4	0.943	0.594	0.026	13.1
1952	0.052	7.24	32.1	34.0	14.1	23.3	18.9	19.7	.602	.449	1.33	.170	12.5
1953	.140	.422	5.34	23.4	18.4	17.0	15.4	12.5	.275	.154	5.578	.045	7.59
1954	.018	.071	1.61	7.32	2.79	19.2	10.4	5.62	4.44	1.62	12.9	1.17	5.64
1955	14.4	5.98	23.6	9.89	41.7	29.9	17.2	2.53	3.27	3.22	12.6	.307	13.6
1956	2.11	4.51	4.15	14.2	41.2	37.6	17.1	16.1	12.2	8.76	27.0	2.55	15.5
1957	1.08	1.82	39.3	24.3	30.2	10.4	20.6	1.55	.450	.273	.261	.897	10.8
1958	2.85	7.36	38.3	18.8	23.1	11.2	17.2	23.8	5.49	27.9	11.8	5.25	16.0
1959	1.89	5.56	7.17	27.0	22.8	10.2	22.7	13.8	1.52	0.81	0.95	.20	9.47
1960	1.00	6.75	12.5	22.3	23.8	20.6	11.3	23.0	1.44	2.04	20.3	4.53	12.5

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	5.42	3.42	3.78	3.09	0.37	5.15	-1.13	0.08	0.003	21.44
1952	0.007	0.97	4.45	4.71	1.82	3.23	2.27	2.59	.08	.06	.18	.02	20.39
1953	.02	.06	.74	3.24	2.05	2.36	2.06	1.73	.04	.02	.08	.006	12.41
1954	.003	.009	.22	1.01	.35	2.67	1.39	.78	.60	.22	1.79	.16	9.20
1955	2.00	.80	3.27	1.37	5.22	4.14	2.31	.35	.44	.45	1.75	.04	22.10
1956	.29	.60	.57	1.96	5.34	5.21	2.29	2.23	1.64	1.21	3.74	.34	25.42
1957	.15	.24	5.45	3.37	3.78	1.44	2.76	.22	.06	.04	.04	.12	17.67
1958	.39	.99	5.31	2.60	2.89	1.55	2.31	3.30	.47	3.87	1.63	.70	26.01
1959	.26	.75	.99	3.74	2.86	1.42	3.04	1.92	.20	.11	1.13	.03	15.45
1960	.14	.90	1.74	3.09	3.08	2.86	1.52	3.18	.19	.28	2.81	.61	20.40

Note.--Negative figures indicate that evaporation and seepage from reservoirs exceeded inflow.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	-	-
1951	1205	1,740	June 13, 1951	-	-	-	-	16.5	26.87	
1952	1235	830	May 26, 1952	0	12.5	1.50	20.39	9.65	15.78	
1953	1275	298	Jan. 8, 1953	0	7.59	.912	12.41	7.24	11.82	
1954	1335	489	June 16, 1954	0	5.64	.678	9.20	9.22	15.04	
1955	1385, 1435	2,280	Aug. 22, 1955	0	13.6	1.63	22.10	10.8	17.53	
1956	1435	1,590	Aug. 5, 1956	.3	15.5	1.86	25.42	18.3	29.80	
1957	1505	1,560	Dec. 14, 1956	.03	10.8	1.30	17.67	11.3	18.52	
1958	1555	1,030	May 5, 1958	.08	16.0	1.92	26.01	13.1	21.32	
1959	1625	580	Apr. 10, 1959	.1	9.47	1.14	15.45	9.95	16.23	
1960	1705	1,060	Aug. 4, 1960	.08	12.5	1.50	20.40	-	-	

MONONGAHELA RIVER BASIN

610. West Fork River at Enterprise, W. Va.

Location.--Lat 39°25'20", long 80°16'40", on left bank 150 ft downstream from highway bridge at Enterprise, Harrison County, and three-quarters of a mile upstream from Binghamon Creek.

Drainage area.--759 sq mi.

Records available.--June 1907 to September 1918 (gage heights only for October 1916 to September 1918), October 1932 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 869.45 ft above mean sea level, adjustment of 1912, June 1907 to Sept. 30, 1918, chain gage at site 150 ft upstream at same datum.

Average discharge.--36 years (1907-16, 1933-60), 1,168 cfs.

Extremes.--1907-16, 1932-60: Maximum discharge, 31,400 cfs Feb. 14, 1948 (gage height, 25.56 ft), from rating curve extended above 20,000 cfs on basis of slope-area measurement of peak flow; minimum, 3.4 cfs July 27, 1934; minimum gage height, 0.6 ft Sept. 10, 14, 25, 1908.

Flood in 1888 reached a stage of about 33 ft, present site and datum.

Revisions.--The momentary maximum discharges for the water years 1915 and 1935, published in WSP 403, 783, 1305, and 1335, have been revised to 14,100 cfs Jan. 12, 1915 (gage height, 15.0 ft, from graph based on gage readings) and 27,500 cfs, respectively.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	269	1,547	2,951	2,649	3,289	2,457	2,541	898	2,157	980	127	134	1,654
1952	48.0	899	2,583	3,671	1,386	2,010	1,735	1,595	247	130	229	45.6	1,219
1953	33.4	525	415	2,015	1,646	1,764	1,608	1,534	194	197	139	29.2	799
1954	21.0	24.6	82.1	783	332	1,661	980	535	257	504	1,078	270	548
1955	1,783	646	2,055	1,299	3,444	3,510	1,201	521	312	297	335	93.4	1,287
1956	288	505	535	1,387	4,171	3,561	1,422	1,435	1,488	802	2,142	370	1,501
1957	170	318	3,286	2,336	3,293	1,247	1,805	324	109	111	42.6	84.2	1,080
1958	410	301	2,770	1,789	2,220	1,402	1,702	2,281	438	2,648	1,728	306	1,502
1959	231	374	659	2,078	1,901	1,179	1,697	1,095	412	118	86.1	43.0	616
1960	127	730	1,372	2,157	2,252	1,556	1,439	1,416	379	218	929	571	1,093

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.41	2.27	4.48	4.02	4.51	3.73	3.73	1.36	3.17	1.49	0.19	0.20	29.56
1952	.07	1.32	3.92	5.58	1.97	3.05	2.55	2.42	.36	.20	.35	.07	21.86
1953	.05	.08	.63	3.06	2.26	2.68	2.36	2.33	.28	.30	.21	.04	14.28
1954	.03	.04	.12	1.19	.46	2.52	1.44	.81	.38	.77	1.64	.40	9.80
1955	2.71	.95	3.12	1.97	4.73	5.42	1.77	.79	.46	.45	.51	.14	23.02
1956	.44	.74	.81	2.11	5.93	5.41	2.09	2.18	2.19	1.22	3.25	.54	26.91
1957	.26	.47	4.96	3.55	4.52	1.89	2.65	.49	.16	.17	.06	.12	19.30
1958	.62	.44	4.21	2.72	3.05	2.13	2.50	3.46	.64	4.02	2.62	.45	26.86
1959	.35	.55	1.00	5.16	2.61	1.79	2.49	1.66	.61	.18	.13	.06	14.59
1960	.19	1.07	2.08	3.28	3.20	2.36	2.12	2.15	.56	.33	1.41	.84	19.59

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	1,753	31.35
1951	1205	25,600	Feb. 1, 1951	54	1,654	2.18	29.56	1,551	27.71
1952	1235	14,700	Jan. 28, 1952	26	1,219	1.61	21.86	965	17.31
1953	1275	10,800	Jan. 9, 1953	20	799	1.05	14.28	767	13.71
1954	1355	6,660	Aug. 26, 1954	14	548	.722	9.80	916	16.39
1955	1385	20,600	Oct. 16, 1954	26	1,287	1.70	23.02	1,019	18.23
1956	1435	27,500	Aug. 6, 1956	36	1,501	1.98	26.91	1,706	30.61
1957	1505	27,500	Dec. 14, 1956	21	1,080	1.42	19.30	1,057	18.88
1958	1555	16,400	May 5, 1958	27	1,502	1.98	26.86	1,314	23.49
1959	1625	11,400	Jan. 21, 1959	23	816	1.08	14.59	897	16.03
1960	1705	13,500	Jan. 15, 1960	50	1,093	1.44	19.59	-	-

615. Buffalo Creek at Barrackville, W. Va.

Location.--Lat 39°30'15", long 80°10'20", near center of span on downstream side of high-way bridge at Barrackville, Marion County, 1,700 ft upstream from Finchs Run.

Drainage area.--115 sq mi.

Records available.--June 1907 to December 1908, May 1915 to June 1924, August 1932 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 882.42 ft above mean sea level, adjustment of 1912. Prior to Dec. 6, 1940, chain gage and Dec. 6, 1940, to June 3, 1943, water-stage recorder, at same site at datum 1.98 ft (corrected) higher.

Average discharge.--37 years (1907-8, 1915-23, 1932-60), 170 cfs.

Extremes.--1907-8, 1915-24, 1932-60: Maximum discharge observed, 9,490 cfs Jan. 22, 1917 (gage height, 16.2 ft, present datum); no flow during greater part of period September to November 1908.

Flood in July 1912 reached a stage of about 18 ft, present site and datum (discharge, 11,600 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	35.0	209	497	481	466	383	370	212	335	26.9	4.53	2.52	250
1952	2.98	52.8	271	507	222	380	261	277	25.6	66.1	48.1	7.96	177
1953	6.05	26.5	107	417	250	268	275	206	7.33	3.55	6.89	2.53	131
1954	.623	1.41	14.8	88.8	44.8	200	139	102	110	10.6	253	25.2	82.9
1955	231	83.7	362	133	528	656	236	71.9	63.3	12.5	25.8	4.47	199
1956	14.1	66.7	38.4	177	589	509	280	490	363	162	223	72.5	247
1957	33.8	31.8	424	318	402	204	334	35.5	6.98	4.02	2.62	4.28	149
1958	18.0	57.9	428	216	263	147	232	306	37.0	277	304	89.9	199
1959	41.1	90.7	112	369	344	140	206	55.1	12.8	12.0	20.4	3.72	116
1960	13.1	72.9	159	233	300	263	169	212	19.8	11.5	26.2	13.2	124

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.35	2.03	4.98	4.82	4.22	3.84	3.59	2.13	3.25	0.27	0.05	0.02	29.55
1952	.03	.51	2.71	5.08	2.08	3.81	2.53	2.78	.25	.66	.48	.08	21.00
1953	.06	.26	1.07	4.18	2.26	2.69	2.67	2.06	.07	.04	.07	.02	15.45
1954	.006	.01	.15	.89	.41	2.00	1.34	1.02	1.07	.11	2.53	.24	9.78
1955	2.32	.81	3.63	1.33	4.78	6.58	2.29	.72	.61	.12	.26	.04	23.49
1956	.14	.65	.38	1.77	5.53	5.10	2.72	4.91	3.52	1.62	2.23	.70	29.27
1957	.34	.31	4.25	3.18	3.64	2.04	3.24	.36	.07	.04	.03	.04	17.54
1958	.18	.56	4.29	2.17	2.38	1.48	2.25	3.07	.36	2.78	3.05	.87	23.44
1959	.41	.88	1.12	3.69	3.11	1.40	2.02	.55	.12	.12	.20	.04	13.66
1960	.13	.71	1.59	2.34	2.81	2.63	1.64	2.13	.19	.12	.26	.13	14.68

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	233	27.48
1951	1205	8,520	June 13, 1951	0.5	250	2.17	29.55	216	25.44
1952	1235	4,110	Jan. 27, 1952	.6	177	1.54	21.00	162	19.14
1953	1275	4,350	Jan. 8, 1953	.3	131	1.14	15.45	121	14.15
1954	1355	5,700	Aug. 21, 1954	.3	82.9	.721	9.78	139	16.37
1955	1385	5,920	Oct. 16, 1954	2.1	199	1.73	23.49	152	17.90
1956	1435	9,170	May 28, 1956	1.1	247	2.15	29.27	280	33.00
1957	1505	5,950	Dec. 14, 1956	.5	149	1.30	17.54	150	17.67
1958	1555	4,470	July 16, 1958	1.4	199	1.73	23.44	176	20.82
1959	1625	4,230	Feb. 10, 1959	.9	116	1.01	13.66	116	13.68
1960	1705	3,190	Mar. 31, 1960	1.4	124	1.08	14.68	-	-

620. Monongahela River at lock 15, at Houtt, W. Va.

Location.--Lat 39°30'25", long 80°07'50", on right bank above spillway of dam at lock 15, at Houtt, Marion County, three-quarters of a mile downstream from Buffalo Creek, $\frac{3}{4}$ miles downstream from Fairmont, and 4 miles downstream from confluence of Tygart and West Fork Rivers.

Drainage area.--2,388 sq mi.

Records available.--April 1915 to September 1926, October 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 849.58 ft above mean sea level, adjustment of 1907. Prior to Sept. 30, 1926, staff gage at same site and datum.

Average discharge.--33 years (1915-26, 1938-60), 4,115 cfs (unadjusted).

Extremes.--1915-26, 1938-60: Maximum discharge observed, 91,500 cfs Jan. 2, 1919 (gage height, 21.2 ft), from rating curve extended above 50,000 cfs; minimum daily, 33 cfs Sept. 27, Oct. 2, 1917; minimum daily since October 1938, 195 cfs Jan. 27, 1940. Flood in 1889, before lock 15 was built, reached a stage of about 26 ft.

Remarks.--Since October 1938, published records below 800 cfs do not include lockage or leakage through lock gates and valves, both of which are usually a small percentage of the total flow. Flow partly regulated by Tygart Reservoir.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,755	5,469	9,676	8,283	10,830	7,048	8,020	3,480	5,809	2,592	739	656	5,322
1952	483	3,072	7,973	12,000	5,240	6,430	4,886	5,714	722	742	893	530	4,070
1953	494	478	2,208	7,225	6,407	6,300	6,183	5,121	560	845	947	532	3,094
1954	423	332	835	3,781	1,858	7,187	3,181	1,753	1,002	1,956	3,888	1,343	2,305
1955	7,235	3,383	5,752	5,277	11,030	13,110	2,238	1,782	1,067	735	924	651	4,406
1956	888	1,849	2,029	2,827	15,350	11,130	4,972	5,514	6,565	3,310	6,896	1,522	5,199
1957	942	2,386	10,190	8,041	13,110	4,305	5,174	842	883	977	495	507	3,932
1958	1,119	1,808	9,026	6,069	5,864	6,509	5,618	8,374	1,907	7,242	8,061	1,136	5,251
1959	1,007	2,204	2,737	7,285	6,789	4,545	5,061	3,322	1,357	556	674	622	2,990
1960	679	3,024	7,067	8,310	6,385	4,404	7,347	3,767	1,517	660	1,828	2,561	3,953

Monthly and yearly runoff, in inches (adjusted) ^a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.59	2.18	4.68	4.16	4.54	3.57	4.10	1.94	2.77	1.16	0.13	0.18	30.00
1952	.05	1.28	3.95	6.13	1.84	3.11	2.87	2.93	.37	.23	.37	.05	23.18
1953	.03	.10	.98	3.55	2.81	3.24	3.14	2.72	.30	.35	.56	.01	17.59
1954	.0009	.0009	.37	1.87	.93	3.32	1.98	1.10	.50	.92	1.90	.50	13.39
1955	5.33	1.17	3.24	1.98	4.99	6.13	1.66	1.03	.48	.31	.58	.07	24.77
1956	.29	.75	.84	2.13	6.45	5.53	2.49	3.18	2.70	1.67	3.25	.66	29.94
1957	.56	.68	4.80	4.48	5.10	2.19	2.87	.57	.45	.34	.05	.08	21.97
1958	.62	.55	4.28	2.87	3.01	2.93	3.38	3.83	.90	4.00	3.20	.38	29.95
1959	.28	.78	1.15	3.61	2.86	2.29	2.88	1.76	.64	.24	.23	.08	16.80
1960	.26	1.55	2.97	3.95	2.90	3.01	2.97	2.28	.55	.27	.87	1.10	22.68

^a Adjusted for change in contents in Tygart Reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year			
		Observed				Adjusted ^a /			Observed	Adjusted ^a /		
		Momentary		maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date	day	day	Mean	Mean	Runoff in inches	Runoff in inches	Runoff in inches	Runoff in inches	Runoff in inches
1950	1205	-	-	-	-	-	-	-	-	5,829	5,814	35.05
1951	1205	41,600	Feb. 1, 1951	518	5,322	5,277	2.21	30.00	4,873	4,897	27.83	
1952	1235	23,200	Jan. 27, 1952	395	4,070	4,070	1.70	23.18	3,370	3,338	19.01	
1953	1275	20,600	Jan. 9, 1953	345	3,094	3,094	1.30	17.59	2,960	2,964	16.85	
1954	1335	16,400	Aug. 26, 1954	284	2,305	2,353	.99	13.39	3,551	3,649	20.76	
1955	1385	41,400	Oct. 16, 1954	408	4,406	4,358	1.82	24.77	3,425	3,327	18.91	
1956	1435	44,100	Aug. 6, 1956	460	5,199	5,254	2.20	29.94	5,938	5,812	33.90	
1957	1505	51,300	Dec. 14, 1956	345	3,932	3,867	1.62	21.97	3,801	3,799	21.58	
1958	1555	33,200	May 5, 1958	436	5,251	5,301	2.22	29.95	4,740	4,730	26.71	
1959	1625	22,400	Jan. 21, 1959	400	2,990	2,960	1.24	16.80	3,397	3,411	19.37	
1960	1705	23,000	Jan. 15, 1960	436	3,953	3,981	1.67	22.68	-	-	-	

^a Adjusted for change in contents in Tygart Reservoir.

625. Deckers Creek at Morgantown, W. Va.

Location.--Lat 39°37'45", long 79°57'10" (revised), on left bank at Kingwood Street, in Morgantown, Monongalia County, 0.6 mile upstream from mouth.

Drainage area.--63.2 sq mi.

Records available.--April 1914 to September 1915 (gage heights only), February 1946 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 820 ft (from topographic map). Prior to Dec. 4, 1914, chain gage on bridge 0.5 mile upstream at different datum. Dec. 4, 1914, to Sept. 30, 1915, chain gage on bridge 0.9 mile upstream at different datum. Feb. 8 to May 7, 1946, staff gage and May 8, 1946, to June 19, 1956, water-stage recorder, at site 150 ft downstream at present datum.

Average discharge.--14 years (1946-60), 108 cfs.

Extremes.--1946-60: Maximum discharge, 5,680 cfs Aug. 5, 1956 (gage height, 10.12 ft), from rating curve extended above 800 cfs on basis of slope-area measurement of peak flow; minimum, 0.6 cfs Nov. 4, 1953; minimum gage height, -0.10 ft Sept. 5, 1960.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	20.4	98.5	258	262	260	149	212	111	174	48.1	8.88	9.80	133
1952	7.51	90.5	208	337	117	217	179	194	51.4	30.3	82.3	10.6	126
1953	7.07	15.4	100	245	148	212	172	113	14.5	2.91	2.42	1.97	86.1
1954	1.27	1.85	11.2	78.3	53.5	182	114	63.0	118	10.5	223	32.4	74.4
1955	155	62.8	203	103	268	341	108	61.6	44.8	7.84	20.4	6.07	114
1956	22.2	54.3	40.2	91.6	337	240	153	234	136	164	309	88.7	155
1957	29.6	35.4	282	204	266	123	181	47.3	13.0	8.68	5.24	6.83	99.3
1958	46.1	48.2	250	134	150	167	141	210	38.3	145	89.9	20.1	120
1959	27.8	66.6	96.0	216	208	144	175	49.6	9.23	5.16	5.22	2.96	82.9
1960	10.4	70.4	243	273	127	189	201	145	24.8	11.7	7.30	14.5	110

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.37	1.74	4.70	4.78	4.29	2.71	3.74	2.03	3.07	0.88	0.16	0.17	28.64
1952	.14	1.60	3.79	6.14	2.00	3.96	3.16	3.54	.55	.55	1.50	.19	27.12
1953	.13	.27	1.83	4.47	2.44	3.86	3.04	2.06	.26	.05	.04	.03	18.48
1954	.02	.03	.20	1.43	.88	3.33	2.02	1.15	2.09	.19	4.07	.57	15.98
1955	2.85	1.11	3.70	1.87	4.41	6.23	1.90	1.12	.79	.14	.37	.11	24.58
1956	.40	.96	.73	1.67	5.74	4.38	2.70	4.27	2.39	2.99	5.64	1.57	33.44
1957	.54	.62	5.14	3.72	4.39	2.24	3.20	.86	.23	.16	.10	.12	21.32
1958	.84	.85	4.55	2.45	2.47	3.04	2.48	3.83	.88	2.65	1.64	.35	25.83
1959	.51	1.18	1.75	3.93	3.43	2.62	3.08	.90	.16	.09	.10	.05	17.80
1960	.19	1.24	4.43	4.97	2.17	3.44	3.55	2.64	.44	.21	.13	.26	23.67

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	141	30.22
1951	1205	-	-	-	-	-	-	127	27.36
1952	1235	1,900	Feb. 1, 1951	3.4	133	2.10	28.64	127	27.36
1953	1275	1,500	Jan. 27, 1952	4.0	126	1.99	27.12	111	23.82
1954	1335	1,150	Jan. 8, 1953	1.2	86.1	1.36	18.48	76.9	16.50
1955	1385	1,730	Aug. 21, 1954	.9	74.4	1.18	15.98	109	23.37
1956	1435	2,570	Oct. 15, 1954	2.3	114	1.80	24.58	88.7	19.03
1957	1505	5,680	Aug. 5, 1956	3.6	155	2.45	33.44	175	37.65
1958	1555	2,180	Dec. 14, 1957	1.9	99.3	1.57	21.32	99.0	21.26
1959	1625	2,110	May 5, 1958	4.2	120	1.90	25.83	107	23.03
1960	1705	1,000	Jan. 22, 1959	2.1	82.9	1.31	17.80	94.2	20.22
		2,050	Mar. 31, 1960	1.0	110	1.74	23.67	-	-

MONONGAHELA RIVER BASIN

630. Monongahela River at lock 8, at Point Marion, Pa.

Location.--Lat 39°43'55", long 79°54'40", on left bank 700 ft upstream from dam at lock 8, 1 mile upstream from Point Marion, Fayette County, and 1.5 miles upstream from Cheat River.

Drainage area.--2,720 sq mi.

Records available.--January 1929 to September 1955. Monthly discharges only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 782.50 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--26 years (1929-55), 4,484 cfs (adjusted).

Extremes.--1929-55: Maximum discharge, 90,400 cfs Mar. 18, 1936 (gage height, 22.33 ft); minimum daily since May 1938 when Tygart Reservoir was placed in operation, 235 cfs Feb. 1, 1940.

Remarks.--Flow partly regulated by Tygart Reservoir.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,858	5,918	10,500	9,041	12,720	8,044	9,110	4,213	6,690	2,959	797	719	5,997
1952	539	3,379	8,956	13,630	5,800	7,365	5,640	6,462	922	861	1,133	626	4,624
1953	581	560	2,449	8,445	7,105	6,915	6,839	5,356	626	947	983	576	3,415
1954	454	355	960	4,022	2,000	7,516	5,572	2,254	1,226	2,280	4,518	1,451	2,565
1955	8,554	3,586	6,626	5,822	12,070	14,890	2,861	2,017	1,171	799	1,067	712	4,988

† Corrected.

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.57	2.10	4.46	3.98	4.71	3.56	4.04	2.02	2.79	1.18	0.14	0.19	29.74
1952	.07	1.25	3.88	6.08	1.84	3.12	2.83	2.88	.41	.26	.43	.08	23.13
1953	.07	.12	.96	3.63	2.71	3.11	2.93	2.48	.29	.35	.33	.03	17.04
1954	.01	.01	.38	1.74	.89	3.04	1.90	1.18	.54	.94	1.94	.48	13.05
1955	3.48	1.11	3.22	1.97	4.78	6.13	1.71	1.00	.47	.30	.40	.08	24.85

a Adjusted for change in contents in Tygart Reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed			Adjusted a/				Observed	Adjusted a/	
		Momentary maximum		Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date	day							
1950	1205	-	-	-	-	-	-	-	6,373	6,357	31.74
1951	1205	49,300	Feb. 2, 1951	445	5,997	5,952	2.19	29.74	5,545	5,570	27.81
1952	1235	29,000	Jan. 27, 1952	406	4,624	4,624	1.70	23.13	3,845	3,813	19.08
1953	1275	27,200	Jan. 9, 1953	358	3,415	3,415	1.26	17.04	3,260	3,264	16.26
1954	1335	17,100	Aug. 26, 1954	310	2,565	2,613	.961	13.05	4,000	4,098	20.46
1955	1385	70,800	Oct. 16, 1954	394	4,988	4,940	1.82	24.65	-	-	-

a Adjusted for change in contents in Tygart Reservoir.

b Corrected.

650. Dry Fork at Hendricks, W. Va.

Location.--Lat 39°04'20", long 79°37'20", on right bank at Hendricks, Tucker County, 0.4 mile upstream from confluence with Blackwater River.

Drainage area.--345 sq mi.

Records available.--October 1940 to September 1960. Published as "Dry Fork River," 1949-52.

Gage.--Water-stage recorder. Datum of gage is 1,698.76 ft above mean sea level, adjustment of 1912. Prior to Dec. 21, 1941, staff gage at same site and datum.

Average discharge.--20 years (1940-60), 739 cfs.

Extremes.--1940-60: Maximum discharge, 47,000 cfs Oct. 15, 1954 (gage height, 15.23 ft), from rating curve extended above 15,000 cfs on basis of slope-area measurement of peak flow; minimum, 6.0 cfs Sept. 19, 20, 1946, Oct. 3-9, 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	391	588	1,292	1,489	1,557	1,186	1,339	913	1,133	293	69.0	58.0	854
1952	21.0	378	1,119	2,230	805	1,156	1,447	1,074	305	110	54.9	24.0	713
1953	19.7	129	563	1,331	1,303	1,268	1,502	979	214	137	250	16.4	639
1954	13.8	35.0	275	1,009	688	1,597	716	564	503	469	880	136	574
1955	1,619	592	1,244	714	1,721	2,144	508	487	440	128	1,168	55.0	900
1956	88.9	359	435	538	2,688	1,863	1,226	1,502	999	712	1,266	150	980
1957	225	342	1,195	1,807	1,977	700	1,297	374	438	188	23.7	22.1	707
1958	231	322	1,359	641	609	1,002	2,914	1,164	490	958	1,165	134	918
1959	65.4	282	279	1,133	831	972	1,222	662	333	169	148	47.3	510
1960	563	729	1,234	1,448	787	1,301	1,774	1,118	294	148	177	623	850

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.31	1.90	4.32	4.97	4.70	3.96	4.33	3.05	3.66	0.98	0.23	0.19	33.60
1952	.07	1.22	3.74	7.45	1.89	3.86	4.68	3.59	.99	.37	.18	.08	28.12
1953	.07	.42	1.88	4.45	3.93	4.24	4.86	3.27	.69	.46	.84	.05	25.16
1954	.05	.11	.92	3.37	2.08	5.34	2.31	1.88	1.63	1.57	2.87	.44	22.57
1955	5.41	1.91	4.16	2.39	5.19	7.17	1.64	1.63	1.42	.43	3.90	.18	35.43
1956	.30	1.16	1.45	1.80	8.40	6.23	3.96	5.02	3.23	2.38	4.23	.49	38.65
1957	.75	1.11	3.99	6.04	5.97	2.34	4.19	1.25	1.41	.63	.08	.07	27.83
1958	.77	1.04	4.54	2.14	1.84	3.35	9.42	3.89	1.58	3.19	3.89	.43	36.08
1959	.22	.91	.93	3.78	2.51	3.25	3.95	2.21	1.08	.56	.49	.15	20.04
1960	1.88	2.36	4.12	4.84	2.46	4.35	5.74	3.74	.95	.49	.59	2.02	33.54

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	911	35.85
1951	1205	11,500	Dec. 7, 1950	15	854	2.48	33.60	791	31.10
1952	1235	8,020	Jan. 27, 1952	7.2	713	1.95	28.12	645	25.46
1953	1275	7,500	Feb. 21, 1953	8.0	639	1.85	25.16	607	23.87
1954	1335	10,100	Mar. 1, 1954	6.0	574	1.66	22.57	838	32.97
1955	1385	47,000	Oct. 15, 1954	31	900	2.61	35.43	683	26.86
1956	1435	25,400	May 28, 1956	30	980	2.84	38.65	1,054	41.59
1957	1505	15,300	Feb. 10, 1957	6.3	707	2.05	27.83	720	28.33
1958	1555	11,300	Apr. 7, 1958	14	918	2.66	36.08	809	31.79
1959	1625	10,400	Jan. 22, 1959	9.8	510	1.48	20.04	670	26.34
1960	1705	15,300	Mar. 31, 1960	.56	850	2.46	33.54	-	-

MONONGAHELA RIVER BASIN

660. Blackwater River at Davis, W. Va.

Location.--Lat 39°07'35", long 79°28'10", on right bank three-eighths of a mile southwest of Davis, Tucker County, and half a mile downstream from Beaver Creek.

Drainage area.--86.2 sq mi.

Records available.--April 1921 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 3,058.87 ft above mean sea level (levels by West Virginia Power and Transmission Co.). Prior to Dec. 18, 1952, staff gage at site 60 ft downstream at same datum.

Average discharge.--39 years (1921-60), 191 cfs.

Extremes.--1921-60: Maximum discharge, 7,170 cfs Mar. 29, 1924 (gage height, 13.20 ft, from floodmark); minimum, 1.5 cfs Sept. 11, 12, 1959 (gage height, 0.90 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	82.9	125	321	411	347	262	290	157	274	66.3	15.3	14.8	196
1952	6.40	115	356	634	173	310	353	277	63.9	17.6	14.3	5.63	194
1953	6.88	93.8	159	367	337	337	346	212	56.3	30.1	45.2	6.72	165
1954	4.31	13.0	109	280	166	419	142	127	88.9	57.6	353	47.3	151
1955	399	163	334	181	460	515	153	99.8	172	42.7	438	20.0	248
1956	26.3	98.7	105	146	732	418	303	368	242	188	478	43.8	262
1957	99.7	93.5	378	494	559	174	289	97.6	124	54.5	10.3	9.91	196
1958	74.5	80.0	343	185	153	228	766	287	106	275	254	45.0	234
1959	24.0	79.3	95.4	338	232	261	239	150	48.1	21.9	18.4	7.19	125
1960	181	158	297	358	166	274	559	309	107	42.3	38.9	129	218

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.11	1.62	4.29	5.50	4.19	3.51	3.76	2.10	3.55	0.89	0.20	0.19	30.91
1952	.09	1.49	4.78	8.47	2.16	4.15	4.57	3.70	.83	.23	.19	.07	30.70
1953	.09	1.21	2.13	4.91	4.07	4.50	4.47	2.83	.73	.40	.80	.09	28.03
1954	.06	.17	1.46	3.74	2.01	5.60	1.84	1.69	1.15	.77	4.72	.61	23.82
1955	5.33	2.11	4.47	2.42	5.56	6.88	1.98	1.33	2.22	.57	5.86	.26	38.99
1956	.35	1.28	1.41	1.95	9.14	5.59	3.92	5.19	3.13	2.51	6.39	.57	41.15
1957	1.33	1.21	5.06	6.61	6.74	2.33	3.73	1.31	1.60	.73	.14	.13	30.92
1958	1.00	1.04	4.58	2.47	1.85	3.06	9.91	3.84	1.37	3.68	3.39	.58	36.77
1959	.32	1.03	1.28	4.51	2.80	3.49	3.10	2.00	.62	.29	.22	.09	19.75
1960	2.43	2.05	3.97	4.79	2.08	3.66	7.23	4.13	1.36	.57	.52	1.67	34.48

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1950	1205	-	-	-	-	-	-	225
1951	1205	2,400	Feb. 1, 1951	5.0	196	2.27	30.91	192
1952	1235	2,580	Dec. 31, 1951	2.5	194	2.25	30.70	176
1953	1275	1,500	Feb. 21, 1953	3.4	185	1.91	28.03	154
1954	1335	1,750	Mar. 1, 1954	1.9	151	1.75	23.82	216
1955	1385	6,800	Aug. 18, 1955	5.7	248	2.68	38.99	191
1956	1435	4,920	Aug. 6, 1956	7.7	262	3.04	41.15	291
1957	1505	4,410	Feb. 10, 1957	4.3	196	2.27	30.92	190
1958	1555	3,140	Apr. 7, 1958	5.4	234	2.71	36.77	208
1959	1625	2,250	Jan. 22, 1959	1.6	125	1.45	19.75	162
1960	1705	4,170	Mar. 31, 1960	11	218	2.53	34.48	-

690. Shavers Fork at Parsons, W. Va.

Location.--Lat 39°05'45", long 79°40'40", on right bank at Parsons, Tucker County, 0.7 mile upstream from confluence with Black Fork.

Drainage area.--214 sq mi.

Records available.--October 1910 to September 1926, October 1940 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,634.87 ft above mean sea level, datum of 1929. Prior to Aug. 25, 1923, chain gage on old highway bridge 800 ft downstream at datum 3 ft lower. Aug. 25, 1923, to Sept. 30, 1926, series of staff gages on railroad bridge 40 ft upstream from chain gage at datum 3 ft lower than present datum. Oct. 4, 1940, to Apr. 4, 1942, staff gage at present site and datum.

Average discharge.--36 years (1910-26, 1940-60), 554 cfs.

Extremes.--1910-26, 1940-60: Maximum discharge, 16,000 cfs Oct. 16, 1954 (gage height, 12.34 ft), from rating curve extended above 11,000 cfs by conveyance-slope method; minimum observed, 1 cfs Oct. 7, 1914 (gage height, 2.0 ft, site and datum then in use). Minimum stage and discharge both very doubtful.

Floods of July 10, 1888, and July 17, 1907, reached a stage of approximately 12.5 ft at site and datum of former gage (discharge, 25,000 cfs, from rating curve extended above 8,000 cfs).

Remarks.--Records of water temperatures for the periods October 1946 to December 1948, April to September 1949, January to September 1950, and October 1952 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	284	432	778	877	1,084	875	1,053	707	851	214	70.8	75.2	605
1952	22.5	362	861	1,513	403	798	893	739	210	111	137	36.8	509
1953	22.0	61.9	407	956	871	915	928	676	267	136	150	13.3	448
1954	8.12	34.6	259	770	547	1,022	556	381	439	477	511	141	429
1955	*302	390	*767	489	1,133	1,482	359	345	185	164	422	49.6	*556
1956	91.0	262	317	317	1,651	1,156	874	882	772	449	613	142	621
1957	201	232	852	1,106	1,239	568	856	232	417	228	31.1	24.5	491
1958	259	277	823	450	400	562	2,098	881	348	616	787	109	652
1959	69.3	261	214	754	506	625	865	485	339	119	129	39.0	366
1960	339	574	819	910	469	707	1,240	593	172	151	161	511	554

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.53	2.25	4.19	4.72	5.28	4.72	5.49	3.81	4.44	1.15	0.38	0.39	38.35
1952	.12	1.89	4.64	8.15	2.03	4.30	4.66	3.98	1.09	.60	.74	.19	32.39
1953	.12	.32	2.19	5.15	4.24	4.93	4.84	3.64	1.39	.73	.81	.07	28.45
1954	.04	.18	1.39	4.15	2.66	5.51	2.90	2.05	2.29	2.57	2.75	.73	27.22
1955	*4.86	2.04	*4.13	2.63	5.51	7.98	1.87	1.86	.96	.88	2.27	.26	*35.25
1956	.49	1.37	1.71	1.71	8.22	6.23	4.56	4.75	4.03	2.42	3.30	.74	39.53
1957	1.08	1.21	4.48	5.96	6.03	3.06	4.36	1.25	2.17	1.23	.17	.13	31.13
1958	1.39	1.45	4.44	2.42	1.94	3.03	10.94	4.75	1.82	4.40	4.24	.57	41.39
1959	.37	1.56	1.15	4.06	2.46	3.37	4.51	2.61	1.77	.64	.69	.20	23.19
1960	1.83	2.99	4.41	4.91	2.36	3.81	6.47	3.19	.90	.81	.87	2.66	55.21

* Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	650	41.26
1951	1205	-	-	-	-	-	-	584	37.03
1952	1235	6,950	Apr. 12, 1951	24	605	2.83	38.35	446	28.37
1953	1275	5,570	Mar. 11, 1952	14	509	2.38	32.39	432	27.41
1954	1335	7,490	Feb. 21, 1953	6.0	448	2.09	28.43	*578	*36.64
1955	1385	5,430	July 15, 1954	3.3	429	2.00	27.22	438	27.79
1956	1435	*16,000	Oct. 16, 1954	14	*556	*2.60	*35.25	-	-
1957	1505	7,380	May 28, 1956	17	621	2.90	39.53	499	31.64
1958	1555	8,400	Jan. 29, 1957	5.5	491	2.29	31.13	583	36.99
1959	1625	6,360	Apr. 7, Aug. 8	15	652	3.05	41.39	466	29.54
1960	1705	8,400	Jan. 22, 1959	6.5	366	1.71	23.19	-	-
		10,900	Apr. 4, 1960	41	554	2.59	35.21	-	-

* Revised.

MONONGAHELA RIVER BASIN

695. Cheat River near Parsons, W. Va.

Location.--Lat 39°07'20", long 79°40'50", on left bank 2 miles north of Parsons, Tucker County, and 3 miles downstream from confluence of Black and Shavers Forks.

Drainage area.--718 sq mi.

Records available.--January 1913 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,589.66 ft above mean sea level, adjustment of 1912. Prior to Aug. 17, 1944, chain gage on Moss Bridge about 1,600 ft upstream at datum 1.13 ft higher.

Average discharge.--46 years (1914-60), 1,660 cfs.

Extremes.--1913-60: Maximum discharge, 52,100 cfs Oct. 15, 1954 (gage height, 19.08 ft), from rating curve extended above 27,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 9 cfs Aug. 12, 1930 (gage height, 1.28 ft, site and datum then in use).

At site and datum in use prior to Aug. 17, 1944, the flood of Oct. 15, 1954, reached a stage of 20.8 ft, from floodmarks, which is 0.3 ft higher than the previously known maximum of July 1888 (discharge, 51,300 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	843	1,309	2,688	3,120	3,559	2,577	2,944	1,949	2,502	617	174	189	1,843
1952	81.5	998	2,630	4,859	1,331	2,501	2,998	2,333	634	272	227	79.8	1,583
1953	56.5	328	1,298	3,008	2,802	2,818	3,077	2,122	800	360	573	42.5	1,417
1954	29.7	90.3	796	2,313	1,610	3,386	1,576	1,202	1,131	1,098	2,125	368	1,314
1955	3,72	1,284	2,611	1,502	3,645	4,558	1,133	1,006	1,011	376	2,285	143	1,907
1956	231	830	946	1,135	5,522	3,722	2,599	3,130	2,351	1,597	2,835	373	2,093
1957	597	762	2,811	3,807	4,304	1,659	2,703	836	1,107	549	74.6	80.7	1,589
1958	645	742	2,726	1,356	1,287	1,999	6,272	2,563	1,102	2,542	2,610	323	2,017
1959	172	692	651	2,516	1,847	2,098	2,539	1,420	781	346	349	107	1,122
1960	1,168	1,650	2,690	3,061	1,614	2,504	4,089	2,337	707	408	455	1,495	1,846

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.35	2.03	4.32	5.01	4.87	4.14	4.58	3.13	3.89	0.99	0.28	0.26	34.85
1952	.10	1.55	4.22	7.80	2.00	4.02	4.66	3.75	.98	.44	.56	.12	30.00
1953	.09	.51	2.08	4.83	4.06	4.52	4.78	3.41	.93	.58	.92	.07	26.78
1954	.05	.14	1.28	3.71	2.33	5.44	2.45	1.93	1.76	1.76	3.41	.57	24.83
1955	5.41	1.99	4.19	2.41	5.29	7.32	1.76	1.62	1.57	.60	3.67	.22	36.05
1956	.37	1.29	1.52	1.82	8.29	5.96	4.04	5.03	3.65	2.56	4.55	.58	39.68
1957	.96	1.18	4.51	6.11	6.24	2.66	4.20	1.34	1.72	.88	.12	.09	30.01
1958	1.04	1.15	4.38	2.18	1.84	3.21	9.75	4.12	1.71	4.08	4.19	.50	38.15
1959	.28	1.08	1.05	4.04	2.68	3.37	3.94	2.28	1.21	.56	.56	.17	21.22
1960	1.88	2.56	4.32	4.91	2.42	4.02	6.32	3.75	1.10	.66	.73	2.32	34.99

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	2,019	36.18
1951	1205	19,300	Feb. 1, 1951	57	1,843	2.57	34.85	1,746	33.02
1952	1235	16,800	Jan. 28, 1952	33	1,583	2.20	30.00	1,414	26.81
1953	1275	16,400	Feb. 21, 1953	22	1,417	1.97	26.78	1,352	25.57
1954	1335	15,700	Mar. 1, 1954	16	1,514	1.83	24.83	1,850	34.95
1955	1385	52,100	Oct. 15, 1954	57	1,907	2.66	36.05	1,462	27.64
1956	1435	37,700	May 28, 1956	59	2,093	2.92	39.68	2,277	43.15
1957	1505	31,800	Feb. 10, 1957	24	1,589	2.21	30.01	1,584	29.93
1958	1555	22,900	Apr. 7, 1958	41	2,017	2.81	38.15	1,799	33.99
1959	1625	23,300	Jan. 22, 1959	27	1,122	1.56	21.22	1,458	27.57
1960	1705	30,000	Mar. 31, 1960	103	1,846	2.57	34.99	-	-

700. Cheat River at Rowlesburg, W. Va.

Location.--Lat 39°20'50", long 79°40'00", on left bank 50 ft downstream from Baltimore & Ohio Railroad bridge at Rowlesburg, Preston County, and 300 ft upstream from Saltlick Creek. Records include flow of Saltlick Creek.

Drainage area.--972 sq mi, including that of Saltlick Creek.

Records available.--July 1912 to September 1923 (gage heights only), October 1923 to September 1960. Gage-height records collected at practically the same site since 1884 are contained in reports of U.S. Weather Bureau. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,369.8 ft above mean sea level (Baltimore & Ohio Railroad bench mark). Prior to Nov. 18, 1923, staff, chain, or tape gage at several sites within 500 ft of present site at various datums.

Average discharge.--37 years (1923-60), 2,227 cfs.

Extremes.--1923-60: Maximum discharge, 66,300 cfs Oct. 16, 1954 (gage height, 15.67 ft), from rating curve extended above 42,000 cfs by logarithmic plotting; minimum, 10 cfs Oct. 15, 1930; minimum gage height, 1.20 ft Sept. 29, 1959.

Maximum stage known, 16.7 ft July 6, 1844, referred to present gage by relation curve (discharge, 89,000 cfs, from rating curve extended above 45,000 cfs). Flood of July 10, 1888, reached a stage of 16.2 ft referred to present gage by relation curve (discharge, 84,000 cfs, from rating curve extended above 45,000 cfs).

Revisions.--The momentary maximum discharges have been revised for the water years listed; the resulting revised figures given herewith supersede those published in WSP 1305.

Water year	Date	Discharge (cfs)
1924	Mar. 29, 1924	47,600
1930	Oct. 3, 1929	39,600
1932	Feb. 4, 1932	51,600
1936	Mar. 17, 1936	46,000
1938	Oct. 28, 1937	49,200
1939	Feb. 3, 1939	48,400
1944	Feb. 23, 1944	41,200
1948	Feb. 14, 1948	46,000
1949	Dec. 16, 1948	42,800

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	956	1879	3,851	4,546	4,855	3,336	4,000	2,514	3,465	1,030	222	251	2,559
1952	78.5	1,410	3,705	6,680	1,730	3,502	3,939	3,128	694	306	279	90.3	2,137
1953	71.3	387	1,647	4,274	4,006	4,099	4,152	2,992	609	382	699	52.5	1,938
1954	25.9	96.0	1,001	2,994	1,972	4,416	2,158	1,624	1,328	1,159	2,757	529	1,676
1955	3,985	1,728	3,770	2,167	5,081	6,085	1,752	1,330	1,289	494	2,507	158	2,522
1956	290	1,096	1,300	1,690	7,665	5,159	3,419	4,480	3,143	2,028	4,079	548	2,891
1957	701	1,047	4,352	5,211	5,745	2,278	3,420	1,025	1,035	658	95.2	81.4	2,114
1958	795	891	3,969	1,927	2,021	2,954	3,770	3,348	1,253	3,714	5,440	393	2,660
1959	234	977	974	3,567	2,895	2,914	3,439	1,956	916	414	437	153	2,564
1960	1,351	2,307	3,812	4,087	2,162	3,333	5,144	3,015	949	528	672	1,610	2,414

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.13	2.16	4.57	5.39	5.20	3.96	4.59	2.98	3.98	1.22	0.26	0.29	35.73
1952	.09	1.62	4.39	7.92	1.92	4.15	4.52	3.71	.80	.36	.33	.10	29.91
1953	.08	.44	1.95	5.07	4.29	4.86	4.77	3.55	.70	.45	.85	.06	27.05
1954	.03	.11	1.19	3.55	2.11	5.24	2.48	1.95	1.52	1.38	5.27	.61	23.42
1955	4.73	1.98	4.47	2.57	5.44	7.22	2.01	1.58	1.48	.59	2.97	.18	35.22
1956	.34	1.26	1.54	2.00	8.51	6.12	3.92	5.31	3.61	2.40	4.84	.63	40.49
1957	.83	1.20	5.14	6.18	6.16	2.70	3.93	1.21	1.19	.78	.11	.09	29.52
1958	.94	1.02	4.71	2.29	2.17	3.50	8.46	3.97	1.44	4.41	4.08	.45	37.44
1959	.28	1.12	1.15	4.23	3.10	3.46	3.95	2.32	1.05	.49	.52	.18	21.85
1960	1.60	2.65	4.52	4.85	2.40	3.95	5.90	3.57	1.09	.63	.80	1.85	33.81

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	-	2,757	38.52
1951	125	38,200	Feb. 1, 1951	62	2,559	2.63	35.73	2,433	33.97		
1952	1235	24,600	Jan. 27, 1952	54	2,137	2.20	29.91	1,878	26.28		
1953	1275	21,000	Feb. 21, 1953	26	1,938	1.99	27.05	1,855	25.91		
1954	1335	18,000	Mar. 1, 1954	15	1,676	1.72	23.42	2,582	33.27		
1955	1395	66,300	Oct. 16, 1954	51	2,522	2.59	35.22	1,946	27.18		
1956	1435	43,700	May 28, 1956	63	2,891	2.97	40.49	3,179	44.51		
1957	1505	46,500	Feb. 10, 1957	30	2,114	2.17	29.52	2,078	29.02		
1958	1555	25,900	Dec. 8, 1957	56	2,680	2.76	37.44	2,585	33.32		
1959	1625	30,000	Jan. 22, 1959	34	1,564	1.61	21.85	2,010	28.07		
1960	1705	38,200	Mar. 31, 1960	128	2,414	2.48	33.81	-	-		

705. Big Sandy Creek at Rockville, W. Va.

Location.--Lat 39°37'15", long 79°42'20", on right bank just downstream from highway bridge at Rockville, Preston County, 5 miles upstream from mouth.

Drainage area.--200 sq mi.

Records available.--May 1909 to March 1918, April 1921 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,310 ft (from topographic map). Prior to Oct. 4, 1924, chain gages at highway bridge at same datum.

Average discharge.--47 years (1909-17, 1921-60), 425 cfs.

Extremes.--1909-18, 1921-60: Maximum discharge observed, 21,300 cfs July 24, 1912 (gage height, 18.0 ft), from rating curve extended above 10,000 cfs by velocity-area studies; minimum, 0.1 cfs Oct. 21-27, 1953.

Maximum stage known, 20.0 to 20.5 ft July 10, 1888 (discharge, 28,000 to 30,000 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	122	426	768	993	848	629	805	432	640	132	15.8	19.6	483
1952	9.94	262	736	1,193	447	872	666	768	126	72	88.5	15.7	440
1953	12.6	60.5	406	964	575	868	658	396	25.0	7.93	6.05	1.13	330
1954	.329	2.32	59.1	314	263	703	373	258	243	19.2	551	103	240
1955	704	256	777	339	1,020	1,257	405	174	302	63.1	108	16.9	449
1956	95.6	228	194	351	1,591	919	626	977	468	258	1,035	268	565
1957	111	134	1,001	779	864	484	715	174	35.5	19.7	9.93	111.1	359
1958	144	152	834	409	421	736	696	771	154	430	209	109	424
1959	128	251	372	781	818	546	666	292	61.1	16.4	30.8	8.43	328
1960	54.4	405	632	740	382	662	627	473	83.5	47.3	42.0	65.7	352

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.70	2.37	4.42	5.72	4.41	3.63	4.49	2.49	3.57	0.76	0.09	0.11	32.76
1952	.06	1.46	4.24	6.88	2.41	5.03	3.71	4.43	.70	.42	.51	.09	29.94
1953	.07	.34	2.34	5.55	2.99	5.01	3.56	2.28	.14	.05	.03	.006	22.37
1954	.002	.01	.23	1.81	1.37	4.05	2.08	1.49	1.36	.11	3.18	.57	16.28
1955	4.06	1.43	4.48	1.95	5.31	7.24	2.26	1.00	1.68	.36	.62	.09	30.48
1956	.55	1.27	1.12	2.02	7.50	5.29	3.49	5.63	2.61	1.49	5.97	1.50	38.45
1957	.64	.75	5.77	4.49	4.50	2.79	3.99	1.00	.20	.11	.06	.06	24.36
1958	.83	.85	4.81	2.36	2.19	4.24	3.88	4.44	.86	2.48	1.21	.61	28.76
1959	.74	1.40	2.14	4.50	4.26	3.15	3.71	1.68	.34	.09	.18	.05	22.24
1960	.31	2.26	3.64	4.27	2.06	3.81	3.50	2.73	.47	.27	.24	.37	23.93

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	1205	-	-	-	-	-	-	534	-	36.24
1951	1205	6,730	June 13, 1951	4.4	483	2.42	32.76	457	-	31.03
1952	1235	5,550	Jan. 27, 1952	5.0	440	2.20	29.94	396	-	26.93
1953	1275	4,260	Mar. 24, 1953	.6	330	1.65	22.37	293	-	19.86
1954	1335	6,210	Aug. 21, 1954	.1	240	1.20	16.26	383	-	25.99
1955	1385	15,800	Oct. 15, 1954	4.2	449	2.24	30.48	349	-	23.45
1956	1435	19,400	Aug. 6, 1956	10	565	2.82	39.45	627	-	42.66
1957	1505	9,900	Dec. 14, 1956	1.5	359	1.80	24.36	349	-	23.69
1958	1555	6,210	May 5, 1958	7.7	424	2.12	28.76	391	-	26.55
1959	1625	7,270	Feb. 10, 1959	1.5	328	1.64	22.24	356	-	24.17
1960	1705	6,910	Mar. 31, 1960	7.6	352	1.76	23.93	-	-	-

710. Cheat River near Pisgah, W. Va.

Location.--Lat 39°36'25" (revised), long 79°46'40", on right bank three-quarters of a mile upstream from Scott Run, 2 miles downstream from Big Sandy Creek, 2½ miles south-west of Pisgah, Preston County, and 10 miles east of Morgantown.

Drainage area.--1,354 sq mi.

Records available.--September 1927 to September 1958.

Gage.--Water-stage recorder. Datum of gage is 875.68 ft above mean sea level, adjustment of 1912 (levels by West Virginia Power and Transmission Co.). Prior to Nov. 14, 1927, staff gage at site 150 ft upstream at same datum.

Average discharge.--31 years (1927-58), 2,988 cfs.

Extremes.--1927-58: Maximum discharge, 127,000 cfs Oct. 16, 1954 (gage height, 30.10 ft in gage well, about 31.5 ft from outside floodmarks), from rating curve extended above 25,000 cfs; minimum, 13 cfs Oct. 15, 1953 (gage height, 1.02 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,213	2,658	5,338	6,419	6,621	4,552	5,619	3,375	4,687	1,368	255	300	3,511
1952	126	1,984	5,240	9,291	2,549	5,089	5,187	4,579	891	433	477	130	3,011
1953	112	519	2,415	5,987	5,036	5,547	5,180	3,597	656	415	694	53.9	2,507
1954	19.7	100	1,005	3,634	2,450	5,854	2,937	2,138	1,866	1,183	3,735	757	2,145
1955	5,927	2,330	5,423	2,701	6,860	8,625	2,451	1,696	1,837	599	2,641	184	3,431
1956	410	1,467	1,708	2,573	10,510	6,958	4,619	6,580	4,035	2,860	6,427	1,111	4,084
1957	929	1,321	6,286	6,920	7,825	3,157	4,627	1,504	1,026	759	130	126	2,839
1958	1,127	1,206	5,734	2,792	2,711	4,191	8,759	5,002	1,574	4,592	4,032	658	3,543
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.03	2.19	4.55	5.47	5.09	3.88	4.63	2.87	3.86	1.17	0.22	0.25	35.21
1952	.11	1.63	4.46	7.91	2.03	4.33	4.27	3.90	.73	.37	.41	.11	30.26
1953	.10	.43	2.06	5.10	3.87	4.72	4.27	3.06	.54	.35	.59	.04	25.13
1954	.02	.08	.86	3.09	1.88	4.98	2.42	1.82	1.54	1.01	3.18	.62	21.50
1955	5.05	1.92	4.62	2.30	5.28	7.34	2.02	1.44	1.51	.51	2.25	.15	34.39
1956	.35	1.21	1.45	2.19	8.37	5.92	3.81	5.60	3.32	2.44	5.47	.92	41.05
1957	.79	1.09	5.35	5.89	6.02	2.69	3.81	1.11	.85	.65	.11	.10	28.46
1958	.96	.99	4.88	2.38	2.08	3.57	7.22	4.26	1.30	3.91	3.43	.54	35.52
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	1205	-	-	-	-	-	-	3,804	-	38.14
1951	1205	48,500	Feb. 1, 1951	93	3,511	2.59	35.21	3,355	-	33.64
1952	1235	33,500	Jan. 27, 1952	74	3,011	2.22	30.26	2,650	-	26.65
1953	1275	23,600	(a)	29	2,507	1.65	25.13	2,545	-	25.50
1954	1335	22,400	Mar. 2, 1954	13	2,145	1.58	21.50	3,206	-	32.13
1955	1385	127,000	Oct. 16, 1954	76	3,451	2.53	34.39	2,576	-	25.81
1956	1455	89,300	Aug. 5, 1956	92	4,084	3.02	41.05	4,504	-	45.27
1957	1505	72,800	Feb. 10, 1957	31	2,839	2.10	28.46	2,799	-	28.06
1958	1555	32,500	Dec. 8, 1957	78	3,543	2.62	35.52	-	-	-
1959	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-

a Dec. 11, 1952, Feb. 22, 1953.

720. Dunkard Creek at Shannopin, Pa.

Location.--Lat 39°45'30", long 79°58'20", on left bank at Shannopin, Greene County, 1.4 miles north of Dunkard, 3.5 miles upstream from mouth, and 4 miles southwest of Greensboro.

Drainage area.--229 sq mi.

Records available.--October 1940 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Altitude of gage is 806 ft (by barometer).

Average discharge.--20 years (1940-60), 278 cfs.

Extremes.--1940-60: Maximum discharge, 16,800 cfs June 4, 1941 (gage height, 14.02 ft), from rating curve extended above 10,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.4 cfs Aug. 28, 1944.

Remarks.--Some regulation at low flow by mine pumps above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	41.9	417	939	822	843	666	720	343	562	72.7	10.0	3.85	451
1952	1.73	62.2	363	913	413	633	471	494	69.9	53.5	55.3	13.5	296
1953	4.30	25.2	149	617	390	457	510	415	11.9	5.78	3.56	2.39	215
1954	1.80	2.44	7.46	113	63.5	315	308	161	82.7	7.40	142	40.2	104
1955	381	68.6	460	202	822	1,030	385	107	127	6.47	61.7	5.30	302
1956	22.9	130	62.2	280	1,100	865	506	754	391	258	426	156	408
1957	69.5	40.1	637	507	579	376	622	98.7	16.3	14.3	5.06	7.14	246
1958	17.7	68.3	609	379	392	276	380	573	77.3	404	221	73.2	290
1959	38.5	77.7	144	640	667	296	387	164	35.9	15.2	46.8	5.83	207
1960	17.3	132	292	345	494	481	303	278	33.2	13.8	7.37	12.1	200

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.21	2.03	4.73	4.14	3.83	3.36	3.51	1.73	2.74	0.37	0.05	0.02	26.72
1952	.009	.30	1.83	4.59	1.94	3.18	2.30	2.49	.34	.27	.28	.07	17.60
1953	.02	.12	.75	3.11	1.77	2.30	2.48	2.08	.06	.03	.02	.01	12.75
1954	.009	.01	.04	.57	.29	1.59	1.50	.81	.40	.04	.72	.20	6.18
1955	1.92	.33	2.31	1.02	3.74	5.19	1.87	.54	.62	.03	.31	.03	17.91
1956	.12	.64	.31	1.31	5.18	4.35	2.46	3.80	1.91	1.30	2.15	.76	24.29
1957	.35	.20	3.21	2.55	2.63	1.89	3.03	.50	.08	.07	.03	.03	14.57
1958	.09	.33	3.06	1.91	1.78	1.39	1.85	2.89	.38	2.03	1.11	.36	17.18
1959	.19	.38	.72	3.22	3.03	1.49	1.89	.82	.17	.08	.24	.03	12.26
1960	.09	.64	1.47	1.74	2.33	2.42	1.47	1.40	.16	.07	.04	.06	11.89

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	-	22.69
1951	1205	10,100	Feb. 1, 1951	1.4	451	1.97	26.72	383	369	21.89
1952	1235	7,640	Jan. 27, 1952	1.3	296	1.29	17.60	275	16.35	
1953	1275	7,700	May 7, 1953	1.1	215	.939	12.75	201	11.92	
1954	1335	2,880	Apr. 17, 1954	1.5	104	.454	6.18	180	10.68	
1955	1385	9,570	Oct. 16, 1954	1.4	302	1.32	17.91	243	14.42	
1956	1435	10,400	May 28, 1956	4.3	408	1.78	24.29	454	26.98	
1957	1505	6,520	Dec. 14, 1956	1.5	246	1.07	14.57	241	14.29	
1958	1555	5,220	Apr. 30, 1958	3.8	280	1.27	17.18	253	14.99	
1959	1625	7,520	Feb. 10, 1959	1.7	207	.904	12.26	222	13.17	
1960	1705	4,200	Mar. 31, 1960	2.1	200	.873	11.89	-	-	

725. Monongahela River at Greensboro, Pa.

Location.--Lat 39°47'15", long 79°55'15", on left bank on land guide wall, 750 ft upstream from dam at lock 7, at Greensboro, Greene County, 0.2 mile upstream from Georges Creek, 2.2 miles downstream from Dunkard Creek, 4.3 miles downstream from Cheat River, and at mile 84.8.

Drainage area.--4,407 sq mi.

Records available.--October 1938 to September 1960. Prior to January 1939 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder and concrete dam. Datum of gage is 767.55 ft above mean sea level, adjustment of 1912.

Average discharge.--22 years (1938-60), 8,151 cfs (adjusted for storage).

Extremes.--1939-60: Maximum discharge, 140,000 cfs Oct. 16, 1954 (gage height, 28.93 ft); minimum daily, 204 cfs Sept. 1-3, 5, 1946; minimum gage height, 10.23 ft Apr. 29, 1941. Maximum stage known, about 36 ft in July 1888, from high-water profile by Corps of Engineers. Flood of Mar. 18, 1936, reached a stage of 28.4 ft (discharge, 137,000 cfs).

Remarks.--Flow regulated since 1938 by Tygart Reservoir (see p. 65) and since 1926 by Lake Lynn (combined capacity, 358,900 acre-ft). Records of chemical analyses and water temperatures 6 miles upstream (above the mouth of Cheat River) at lock 8 at Point Marion, Pa., for the period October 1955 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,237	9,481	17,990	17,240	20,340	13,600	16,350	8,209	12,370	4,840	1,167	1,107	10,400
1952	735	5,566	14,750	24,690	9,396	13,540	11,890	12,250	2,077	1,563	1,891	851	8,294
1953	732	1,186	5,426	15,620	13,140	13,700	13,080	10,090	1,372	1,399	1,718	644	6,481
1954	459	569	2,006	8,245	4,678	14,640	7,319	4,522	3,415	3,412	9,123	2,416	5,070
1955	14,070	6,234	12,690	9,410	20,420	24,960	6,138	3,967	3,573	1,380	3,856	889	8,905
1956	1,423	3,636	4,078	5,852	28,870	20,750	11,520	14,390	12,130	7,426	15,120	3,342	10,650
1957	2,255	4,090	18,860	16,900	23,070	8,712	12,570	2,632	2,234	1,884	666	743	7,792
1958	2,438	3,382	16,830	10,340	10,110	12,220	15,650	15,270	3,906	13,240	12,990	2,210	9,920
1959	1,785	4,059	5,088	13,910	13,560	9,813	11,060	6,184	2,467	1,144	1,445	991	5,896
1960	2,367	6,298	13,380	14,510	10,700	10,190	15,360	8,796	2,938	1,433	2,864	4,595	7,775

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.70	2.16	4.73	4.60	4.71	3.87	4.32	2.28	3.15	1.18	0.18	0.22	31.90
1952	.09	1.31	3.94	6.62	2.03	3.55	3.31	3.31	.55	.35	.46	.09	25.61
1953	.08	.24	1.36	4.10	3.12	3.70	3.45	2.79	.36	.54	.40	.02	19.96
1954	-.003	.01	.49	2.19	1.18	3.74	2.12	1.34	.88	.88	2.40	.54	15.77
1955	3.59	1.36	3.57	2.12	4.92	6.46	1.89	1.14	.84	.54	.97	.09	27.29
1956	.30	.86	.98	1.96	6.77	5.55	2.99	4.05	2.88	1.98	3.89	.84	33.03
1957	.54	.80	4.84	4.78	5.06	2.37	3.44	.79	.56	.45	.06	.10	25.78
1958	.70	.69	4.33	2.66	2.64	3.07	4.42	3.87	.99	3.80	3.04	.48	30.69
1959	.36	.89	1.22	3.68	3.11	2.63	3.08	1.73	.63	.28	.33	.13	18.07
1960	.57	1.64	3.22	3.79	2.62	3.17	3.61	2.55	.67	.56	.74	1.11	24.05

a Adjusted for change in contents in Tygart Reservoir and Lake Lynn.

Note.--Negative figure indicates evaporation and seepage exceeds natural flow.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted a/					Observed		Adjusted a/
		Momentary maximum		Minimum day	Mean	Mean	Mean	Per square mile	Runoff in inches			Mean	Mean	Runoff in inches
		Discharge	Date											
1950	-	-	-	-	-	-	-	-	-	-	-	11,020	11,020	33.95
1951	1205	99,000	Feb. 1, 1951	460	10,400	10,360	2.35	31.90	9,594	9,624	29.65			
1952	1235	69,200	Jan. 27, 1952	539	8,294	8,288	1.88	25.61	7,144	7,103	21.95			
1953	1275	44,300	May 7, 1953	460	6,481	6,483	1.47	19.96	6,099	6,103	18.78			
1954	1355	34,500	Mar. 2, 1954	232	5,070	5,121	1.16	15.77	7,617	7,724	23.79			
1955	1385	140,000	Oct. 16, 1954	320	8,905	8,855	2.01	27.29	6,886	6,784	20.91			
1956	1435	110,000	Aug. 6, 1956	534	10,650	10,700	2.43	33.03	12,010	12,010	37.07			
1957	1505	103,000	Feb. 10, 1957	325	7,792	7,723	1.75	23.78	7,577	7,573	23.32			
1958	1555	83,000	May 6, 1958	442	9,920	9,971	2.26	30.69	8,923	8,917	27.44			
1959	1625	61,900	Jan. 22, 1959	295	5,896	5,865	1.33	18.07	6,834	6,841	21.03			
1960	1705	70,200	Mar. 31, 1960	505	7,775	7,804	1.77	24.05	-	-	-			

a Adjusted for change in contents in Tygart Reservoir and Lake Lynn.

730. South Fork Tenmile Creek at Jefferson, Pa.

Location--Lat 39°55'25", long 80°04'25", on right bank at downstream side of highway bridge, 1 mile southwest of Jefferson, Greene County, and 3½ miles downstream from Ruff Creek.

Drainage area--180 sq mi.

Records available--October 1931 to September 1960. Monthly discharge only for October 1931, published in WSP 1305.

Gage--Water-stage recorder and masonry control. Datum of gage is 852.54 ft above mean sea level, adjustment of 1907. Prior to Oct. 21, 1938, chain gage at same site and datum.

Average discharge--29 years (1931-60), 201 cfs.

Extremes--1931-60: Maximum discharge, 13,800 cfs June 4, 1941 (gage height, 18.45 ft, from floodmark in gage house), from rating curve extended above 8,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 0.05 Sept. 3, 1938 (gage height, 0.36 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	44.1	371	746	572	617	605	646	223	197	116	3.48	1.82	343
1952	1.29	32.7	223	619	362	490	346	349	39.7	18.4	7.70	1.66	208
1953	1.29	9.02	63.8	372	232	294	377	267	13.6	3.42	.973	1.55	136
1954	.652	.960	3.86	70.9	41.1	202	175	92.7	76.8	4.82	53.4	15.9	61.1
1955	351	41.6	306	141	620	817	158	225	239	21.4	66.2	4.07	246
1956	18.7	132	45.9	199	838	717	423	477	216	521	439	52.2	339
1957	24.0	14.9	334	277	369	258	532	47.0	7.79	4.67	1.66	1.10	154
1958	2.08	16.5	322	254	229	207	206	478	40.7	140	90.8	30.0	169
1959	16.5	31.6	97.7	468	471	203	250	235	89.9	11.2	19.3	3.02	156
1960	11.7	85.0	231	269	334	405	211	182	18.1	20.1	22.8	146	161

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.28	2.30	4.78	3.66	3.57	3.88	4.00	1.43	1.22	0.74	0.02	0.01	25.89
1952	.008	.20	1.43	3.96	2.17	3.14	2.14	2.24	.25	.12	.05	.01	15.72
1953	.008	.06	.41	2.38	1.34	1.88	2.34	1.71	.08	.02	.006	.01	10.24
1954	.004	.006	.02	.45	.24	1.29	1.09	.59	.48	.03	.34	.10	4.64
1955	2.25	.26	1.96	.90	3.59	5.24	.86	1.44	1.48	.14	.42	.03	18.57
1956	.12	.82	.29	1.28	5.02	4.59	2.62	3.05	1.34	3.34	2.81	.32	25.60
1957	.15	.09	2.14	1.77	2.14	1.65	3.30	.30	.05	.03	.01	.007	11.64
1958	.01	.10	2.06	1.63	1.32	1.32	1.28	3.06	.25	.90	.58	.19	12.70
1959	.11	.20	.63	2.99	2.72	1.30	1.55	1.51	.56	.07	.12	.02	11.78
1960	.07	.53	1.48	1.73	2.00	2.59	1.31	1.17	.11	.13	.15	.90	12.17

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	299	22.55
1951	1205	-	Feb. 1, 1951	0.78	343	1.91	25.89	298	20.17
1952	1235	6,830	Jan. 27, 1952	.32	208	1.16	15.72	192	14.56
1953	1275	5,930	May 7, 1953	.15	136	.756	10.24	130	9.80
1954	1335	2,510	Apr. 17, 1954	.47	61.6	.342	4.64	120	9.08
1955	1385	9,180	Oct. 15, 1954	.37	246	1.37	18.57	203	15.33
1956	1435	10,900	July 27, 1956	2.10	339	1.88	25.60	354	26.75
1957	1505	3,260	Apr. 18, 1957	.33	154	.856	11.64	152	11.43
1958	1555	3,580	May 4, 1958	.28	169	.939	12.70	152	11.47
1959	1625	7,010	Feb. 10, 1959	.44	156	.867	11.78	171	12.92
1960	1705	3,740	Sept. 11, 1960	1.28	161	.894	12.17	-	-

740. Dunlap Creek at Allison, Pa.

Location.--Lat 39°59'20", long 79°52'30", at highway bridge at Allison, Fayette County, 1½ miles north of Republic, 2.6 miles upstream from Cox Run, and 3.7 miles downstream from Lilly Run.

Drainage area.--33.1 sq mi.

Records available.--October 1942 to September 1951. Monthly discharge only for October, November 1942, published in WSP 1305.

Gage.--Chain and crest-stage gages. Altitude of gage is 900 ft (from topographic map).

Average discharge.--9 years (1942-51), 45.4 cfs.

Extremes.--1942-51: Maximum discharge, 1,300 cfs Sept. 22, 1950 (gage height, 6.17 ft), from rating curve extended above 200 cfs on basis of slope-area measurement of peak flow; minimum daily, 6.6 cfs Dec. 25, 1943.

Remarks.--Some regulation at low flow by mine pumpage into stream above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	29.5	60.1	111	87.5	90.3	76.1	91.1	65.3	63.7	26.4	17.8	18.5	61.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.03	2.03	3.86	3.05	2.84	2.65	3.07	2.28	2.15	0.92	0.62	0.62	25.12

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	63.1	25.88
1951	1205	960	Dec. 4, 1950	13	61.2	1.85	25.12	-	-

745. Redstone Creek at Waltersburg, Pa.

Location.--Lat 39°58'45", long 79°45'50", near center of span on downstream side of highway bridge at Waltersburg, Fayette County, 500 ft upstream from Bolden Run and 1 mile upstream from Allen Run.

Drainage area.--73.7 sq mi.

Records available.--October 1942 to September 1960. Monthly discharge only for October 1942, published in WSP 1305.

Gage.--Wire-weight and crest-stage gages. Datum of gage is 883.28 ft above mean sea level, datum of 1929.

Average discharge.--18 years (1942-60), 103 cfs.

Extremes.--1942-60: Maximum discharge, 4,400 cfs Oct. 15, 1954 (gage height, 11.83 ft), from rating curve extended above 1,600 cfs on basis of contracted-opening measurement of peak flow; minimum observed, 7.0 cfs Nov. 5, 1951; minimum gage height observed, 0.91 ft July 25, 1954.

Remarks.--Some regulation at low flow by mine pumpage into stream above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	49.3	111	282	214	243	176	239	174	181	47.0	26.9	30.4	147
1952	24.7	52.6	97.2	265	133	184	185	220	61.0	42.1	29.2	29.1	110
1953	21.2	24.7	60.0	176	106	168	175	147	49.3	29.1	25.6	24.5	83.9
1954	19.8	19.9	17.3	34.0	33.0	118	99.2	61.4	29.6	17.0	46.2	33.4	44.2
1955	194	48.8	140	96.1	240	334	118	55.0	97.0	41.2	46.2	21.6	119
1956	28.2	49.7	29.1	79.2	340	227	171	196	145	60.5	159	90.4	130
1957	47.2	30.7	163	130	184	106	165	53.8	32.2	25.4	19.8	18.3	80.6
1958	25.0	22.0	93.1	133	98.9	111	95.0	227	55.9	72.3	57.2	35.0	85.5
1959	31.2	30.8	56.9	136	199	114	150	175	58.6	28.2	30.0	23.0	85.3
1960	26.2	54.1	130	152	132	131	119	92.4	36.2	30.4	25.5	33.9	80.1

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.77	1.68	4.41	3.34	3.43	2.76	3.61	2.72	2.73	0.74	0.42	0.46	27.07
1952	.39	.80	1.52	4.15	1.95	2.88	2.80	3.44	.92	.66	.46	.44	20.41
1953	.33	.37	.94	2.76	1.50	2.63	2.65	2.30	.75	.45	.40	.37	15.45
1954	.31	.30	.27	.53	.47	1.85	1.50	.96	.45	.27	.72	.51	8.14
1955	3.04	.74	2.20	1.50	3.39	5.23	1.78	.86	1.47	.64	.72	.33	21.90
1956	.44	.75	.46	1.24	4.98	3.56	2.59	3.06	2.19	.95	2.48	1.37	24.07
1957	.74	.46	2.56	2.03	2.60	1.65	2.49	.84	.49	.40	.31	.28	14.85
1958	.36	.33	1.46	2.08	1.40	1.74	1.44	3.55	.85	1.13	.89	.53	15.76
1959	.49	.47	.89	2.13	2.81	1.78	2.28	2.73	.89	.44	.47	.35	15.73
1960	.41	.82	2.04	2.38	1.93	2.04	1.81	1.45	.55	.48	.40	.51	14.82

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1950	-	-	-	-	-	-	-	132
1951	1205	2,440	June 13, 1951	14	147	1.99	27.07	124
1952	1235	1,720	Jan. 27, 1952	9.7	110	1.49	20.41	105
1953	1275	1,380	May 7, 1953	12	83.9	1.14	15.45	79.7
1954	1335	735	Apr. 17, 1954	11	44.2	.600	8.14	71.9
1955	1385	4,400	Oct. 15, 1954	15	119	1.61	21.90	95.4
1956	1435	3,080	Aug. 6, 1956	14	130	1.76	24.07	142
1957	1505	1,000	Dec. 14, 1956	12	80.6	1.09	14.85	71.8
1958	1555	1,640	May 4, 1958	13	85.5	1.16	15.76	83.9
1959	1625	3,160	Feb. 10, 1959	16	85.3	1.16	15.73	93.1
1960	1705	1,750	Dec. 12, 1959	14	80.1	1.09	14.82	-

750. Monongahela River at Charleroi, Pa.

Location.--Lat 40°08'30", long 79°53'35", on right bank on land guide wall 1,100 ft upstream from dam at lock 4, at Charleroi, Washington County, half a mile downstream from Maple Creek, and at mile 41.5.

Drainage area.--5,213 sq mi.

Records available.--October 1933 to September 1960. Monthly discharge prior to 1940, adjusted for reservoir contents, published in WSP 1305. Records for March 1886 to March 1905 (high-water periods only), published in WSP 169, have been found to be unreliable and should not be used (peak discharge of July 11, 1888, as published in WSP 783, is still considered reliable).

Gage.--Water-stage recorder and concrete dam. Datum of gage is 735.33 ft above mean sea level (Corps of Engineers bench mark).

Average discharge.--27 years (1933-60), 9,015 cfs (adjusted for storage).

Extremes.--1933-60: Maximum discharge, 140,000 cfs Oct. 16, 1954; maximum gage height, 22.47 ft Mar. 18, 1936; minimum discharge not determined.
Maximum stage known, 42.0 ft on lower gage, at old lock 1 mile downstream, or about 26.1 ft on present gage, July 11, 1888 (discharge, about 156,000 cfs).

Remarks.--Flow regulated by locks above station and since 1938 by Tygart River Reservoir (see p. 65) and since 1926 by Lake Lynn (combined capacity, 358,900 acre-ft). Records of chemical analyses and water temperatures for the periods October 1944 to June 1953 and October 1956 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,513	10,750	21,270	19,150	23,020	15,350	18,860	9,811	13,710	5,225	1,252	1,227	11,850
1952	668	5,592	15,050	26,960	11,160	15,430	13,490	14,510	2,727	1,865	2,012	897	9,223
1953	843	1,291	5,682	16,790	13,900	14,620	14,470	11,330	1,578	1,590	1,783	713	7,020
1954	475	400	2,052	8,256	4,842	15,160	7,948	5,018	3,694	3,459	9,218	2,610	5,282
1955	15,380	6,550	13,680	10,230	22,540	28,730	6,917	4,736	4,317	1,699	4,099	933	9,940
1956	1,424	3,831	4,304	6,345	33,110	23,790	13,690	16,440	13,580	8,816	17,890	4,106	12,200
1957	2,544	4,287	20,290	17,900	25,210	10,280	14,240	3,296	2,408	2,202	812	867	6,595
1958	2,569	3,577	17,600	11,550	10,730	13,160	16,290	17,940	4,227	13,570	13,900	2,445	10,670
1959	2,019	4,099	5,495	15,740	15,260	10,720	12,220	7,636	3,039	1,392	1,639	1,088	6,641
1960	2,313	6,183	13,830	16,400	11,760	10,960	17,270	9,320	3,421	1,801	3,044	4,797	8,413

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.66	2.10	4.73	4.31	4.52	3.48	4.20	2.28	2.95	1.13	0.18	0.21	30.75
1952	.06	1.11	3.40	6.10	2.08	3.42	5.14	3.30	.61	.36	.42	.09	24.09
1953	.09	.22	1.20	3.74	2.80	3.33	3.21	2.63	.35	.33	.35	.04	18.29
1954	.006	.02	.43	1.86	1.03	3.27	1.92	1.25	.81	.76	2.04	.50	13.90
1955	3.32	1.22	3.25	1.97	4.58	6.28	1.76	1.14	.91	.36	.68	.08	25.75
1956	.25	.77	.88	1.76	6.61	5.35	2.99	3.87	2.74	1.98	3.90	.87	31.97
1957	.52	.72	4.42	4.27	4.71	2.35	3.26	.80	.51	.45	.08	.11	22.20
1958	.62	.63	3.83	2.52	2.35	2.80	3.87	3.86	.91	3.29	2.78	.45	27.91
1959	.36	.76	1.13	3.52	3.01	2.42	2.85	1.79	.66	.29	.52	.12	17.23
1960	.47	1.36	2.81	3.63	2.44	2.85	3.47	2.27	.67	.38	.66	.98	21.99

a Adjusted for change in contents in Tygart Reservoir and Lake Lynn.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Observed			Adjusted a/			Observed	Adjusted a/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean
		Discharge	Date							Runoff in inches
1950	-	-	-	-	-	-	-	-	-	-
1951	1205	106,000	Feb. 2, 1951	608	11,850	11,810	2.27	30.75	12,400	12,400
1952	1235	82,300	Jan. 27, 1952	502	9,223	9,217	1.77	24.09	8,092	8,051
1953	1275	55,800	May 7, 1953	500	7,020	7,022	1.35	18.29	6,608	6,612
1954	1335	33,300	Mar. 2, 1954	269	5,282	5,333	1.02	13.90	8,041	8,148
1955	1385	140,000	Oct. 16, 1954	551	9,940	9,940	1.90	25.75	7,734	7,632
1956	1435	130,000	Aug. 6, 1956	670	12,200	12,250	2.35	31.97	13,690	13,690
1957	1505	102,000	Feb. 10, 1957	500	8,595	8,526	1.64	22.20	8,310	8,306
1958	1555	70,300	May 6, 1958	706	10,670	10,720	2.06	27.91	9,640	9,634
1959	1625	69,700	Jan. 22, 1959	670	6,641	6,610	1.27	17.23	7,546	7,553
1960	1705	83,100	Mar. 31, 1960	778	8,413	8,442	1.82	21.99	-	-

a Adjusted for change in contents in Tygart Reservoir and Lake Lynn.

MONONGAHELA RIVER BASIN

755. Youghiogheny River near Oakland, Md.

Location.--Lat 39°25'19", long 79°25'32", on left bank 200 ft downstream from Baltimore & Ohio Railroad bridge, 250 ft downstream from Little Youghiogheny River, 1½ miles northwest of Oakland, Garrett County, and 1½ miles upstream from Dunkard Lick Run.

Drainage area.--134 sq mi.

Records available.--August 1941 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,353.11 ft above mean sea level, unadjusted. Prior to Aug. 1, 1946, wire-weight gage at bridge 200 ft upstream at same datum.

Average discharge.--19 years (1941-60), 286 cfs.

Extremes.--1941-60: Maximum discharge, 11,800 cfs Oct. 16, 1954 (gage height, 12.16 ft); minimum daily, 2.5 cfs Oct. 4, 1953.
Flood in March 1936 reached a stage of 15.3 ft, from floodmarks.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	103	210	465	692	642	450	496	284	449	138	28.5	27.1	330
1952	15.6	205	555	861	239	501	522	434	73.9	20.5	35.7	14.4	291
1953	15.2	79.9	253	652	487	582	477	339	45.8	10.3	22.9	5.99	247
1954	4.45	70.8	73.5	292	195	543	227	192	261	71.3	337	132	195
1955	608	249	558	271	580	745	261	153	180	73.7	246	38.2	330
1956	42.2	154	150	246	1,021	645	441	678	345	233	586	155	389
1957	94.8	118	703	702	713	310	366	76.5	41.8	31.9	13.1	14.2	263
1958	99.8	82.2	615	242	249	521	716	418	74.9	410	331	53.7	319
1959	35.5	95.6	145	500	544	414	409	175	59.8	37.7	23.4	9.65	202
1960	96.4	262	470	590	242	460	619	368	94.1	76.6	82.5	102	289

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.89	1.75	4.00	5.95	4.99	3.87	4.13	2.44	3.74	1.19	0.23	0.23	33.41
1952	.13	1.71	4.77	7.40	1.92	4.31	4.35	3.73	.62	.18	.31	.12	29.55
1953	.13	.67	2.18	5.61	3.78	5.00	3.97	2.91	.38	.09	.20	.05	24.97
1954	.04	.06	.63	2.51	1.51	4.67	1.89	1.65	2.17	.61	2.90	1.10	19.74
1955	5.23	2.07	4.80	2.33	4.50	6.41	2.17	1.31	1.50	.63	2.12	.32	33.39
1956	.36	1.28	1.29	2.12	8.22	5.55	3.67	5.82	2.87	2.01	5.04	1.29	39.52
1957	.82	.99	6.05	6.04	5.54	2.66	3.05	.66	.35	.27	.11	.12	26.66
1958	.86	.68	5.29	2.08	1.93	4.48	5.96	3.60	.62	3.52	2.85	.45	32.32
1959	.31	.80	1.25	4.30	4.23	3.56	3.40	1.50	.50	.32	.20	.08	20.45
1960	.83	2.18	4.05	5.07	1.95	3.96	5.15	3.17	.78	.66	.71	.85	29.36

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	333	33.74
1951	1205	4,800	Feb. 1, 1951	9.8	330	2.46	33.41	329	33.38
1952	1235	3,150	Jan. 27, 1952	6.3	291	2.17	29.55	255	25.92
1953	1275	2,700	Jan. 24, 1953	3.6	247	1.84	24.97	224	22.72
1954	1335	1,640	Mar. 14, 1954	2.5	195	1.46	19.74	307	31.11
1955	1385	11,800	Oct. 16, 1954	12	330	2.46	33.39	239	24.22
1956	1435	8,000	Aug. 6, 1956	19	389	2.90	39.52	437	44.45
1957	1505	5,220	Feb. 10, 1957	4.6	263	1.96	26.66	253	25.63
1958	1555	3,710	Dec. 8, 1957	9.0	319	2.38	32.32	275	27.85
1959	1625	2,530	Jan. 22, 1959	4.2	202	1.51	20.45	248	25.15
1960	1705	6,180	Mar. 31, 1960	11	289	2.16	29.36	-	-

760. Deep Creek Reservoir near Oakland, Md.

Location.--Lat. 39°30'34", long 79°23'28", on Deep Creek at dam, 1.8 miles upstream from mouth and 7 miles north of Oakland, Garrett County.

Drainage area.--64.7 sq mi.

Records available.--July 1925 to September 1960 (prior to October 1950, month-end contents published in WSP 1305, and October 1950 to September 1955, month-end contents published in WSP 1385).

Gage.--Water-stage recorder at right end of spillway. Datum of gage is at mean sea level (unadjusted).

Extremes.--1925-60: Maximum contents since storage began, 93,258 acre-ft July 24, 25, 1949 (elevation, 2,462.075 ft); minimum observed, 11,763 acre-ft Sept. 30, 1925 (elevation, 2,433.45 ft).

Remarks.--Reservoir is formed by an earthfill dam completed January 1925. Usable capacity, 92,975 acre-ft between elevations 2,425 ft (top of intake to outlet tunnel) and 2,462 ft (crest of spillway). Dead storage, 13,085 acre-ft. Figures given herein represent usable contents. Reservoir is used for hydroelectric power.

Cooperation.--Records furnished by Pennsylvania Electric Co.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1950	-	-	-	-	-	-	-	-	-	-	-	72,365
1951	62,206	53,937	51,956	64,348	74,302	75,716	85,537	84,986	85,354	80,211	71,492	63,522
1952	53,476	52,713	57,534	71,318	66,364	77,498	88,512	90,186	87,769	81,680	75,539	65,354
1953	56,111	52,107	50,895	63,026	71,667	82,782	83,884	83,333	80,028	77,140	73,772	66,703
1954	57,218	49,989	47,817	51,047	55,331	67,723	71,492	74,125	78,939	76,781	78,214	70,971
1955	73,242	64,516	61,065	55,799	65,521	84,619	86,467	87,769	84,803	79,665	76,781	68,572
1956	62,532	57,059	53,629	56,584	75,716	82,231	87,025	90,372	89,256	86,281	82,599	72,888
1957	64,851	57,851	65,689	69,766	76,070	77,140	82,231	81,680	80,395	77,319	73,418	71,143
1958	68,402	60,101	62,369	60,583	61,554	69,766	86,839	90,186	92,415	80,946	78,577	72,539
1959	67,700	61,100	55,800	62,200	69,900	74,500	80,000	80,800	79,700	77,700	75,000	71,100
1960	68,900	65,700	66,200	68,700	66,700	73,400	85,000	84,800	79,700	77,700	68,400	64,700

765. Youghiogheny River at Friendsville, Md.

Location.--Lat 39°39'17", long 79°24'27", on left bank 0.6 mile upstream from bridge on State Highway 42 at Friendsville, Garrett County, and 1½ miles upstream from Bear Creek.

Drainage area.--295 sq mi.

Records available.--August 1898 to December 1904 and October 1940 to September 1960 in reports of Geological Survey. Monthly discharge only for October, November 1940, published in WSP 1305. September 1922 to September 1926 (gage heights only) in reports of Pennsylvania Department of Forests and Waters.

Gage.--Water-stage recorder. Datum of gage is 1,487.33 ft above mean sea level, datum of 1929. Aug. 17, 1898, to Dec. 31, 1904, and Sept. 1, 1922, to Sept. 30, 1926, wire-weight and chain gages at bridge 0.6 mile downstream at datum 16.24 and 16.29 ft lower, respectively.

Average discharge.--26 years (1898-1904, 1940-60), 645 cfs (adjusted for storage since 1940).

Extremes.--1898-1904, 1940-60: Maximum discharge, 13,000 cfs Oct. 16, 1954 (gage height, 8.99 ft), from rating curve extended above 5,800 cfs on basis of slope-area measurement of peak flow; minimum daily, 10 cfs Sept. 8, 1957.

Maximum stage known, 14.2 ft Mar. 29, 1924, from floodmarks, site and datum then in use, or 10.2 ft, present site and datum (discharge, about 15,600 cfs, from rating curve extended on basis of slope-area measurement for peak of Oct. 16, 1954).

Remarks.--Low and medium flow regulated since 1925 by Deep Creek Reservoir (usable capacity, 92,975 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	398	588	1,029	1,288	1,137	895	890	642	843	316	167	163	693
1952	191	436	1,075	1,664	628	1,002	932	944	236	128	182	175	633
1953	159	229	519	1,170	885	1,119	980	665	155	70.3	89.9	111	511
1954	145	118	166	506	337	879	431	382	464	135	572	356	375
1955	1,103	671	1,168	681	1,024	1,473	535	360	507	226	452	208	700
1956	165	368	349	388	1,806	1,210	879	1,293	765	496	1,319	494	791
1957	321	351	1,331	1,365	1,501	641	878	203	125	111	68.6	70.1	568
1958	262	341	1,241	661	525	999	1,339	1,008	241	658	640	238	682
1959	164	336	418	1,005	1,088	834	805	573	120	117	81.4	65.8	447
1960	212	563	955	1,199	606	848	1,254	860	310	164	278	204	622

† Corrected.

MONONGAHELA RIVER BASIN

Monthly and yearly runoff, in inches (adjusted) ^a/_{of} Youghiogheny River at Friendsville, Md.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.91	1.70	3.90	5.82	4.64	3.58	3.95	2.48	3.21	0.91	0.10	0.11	31.31
1952	.11	1.60	4.51	7.38	1.98	4.62	4.23	3.79	.74	† 1.11	.24	.02	29.33
1953	.04	.61	1.95	5.34	3.68	5.08	3.77	2.58	.37	.09	.14	-.03	23.60
1954	-.04	-.01	.50	2.20	1.46	4.22	1.86	1.66	2.06	.39	2.33	.88	17.51
1955	4.45	1.99	4.35	2.33	4.23	6.98	2.14	1.49	1.73	.55	1.58	.26	32.04
1956	.26	1.04	1.14	1.71	7.82	5.14	3.63	5.27	2.82	1.75	4.92	1.25	36.75
1957	.74	.88	5.70	5.59	5.70	2.57	3.30	.78	.39	.24	.02	.12	26.01
1958	.85	.76	4.99	2.47	1.92	4.43	6.15	4.15	.42	2.48	2.35	.52	31.49
1959	.34	.85	1.30	4.34	4.53	3.55	3.39	1.51	.39	.33	.15	.003	20.48
1960	.69	1.93	3.76	4.84	2.09	3.74	5.48	3.36	.85	.52	.50	.54	28.30

† Corrected.

^a Adjusted for change in contents in Deep Creek Reservoir.

Note.--Negative figures indicate that evaporation and seepage from reservoir exceeded inflow.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^a / _{of}			Observed	Adjusted ^a / _{of}	
		Momentary		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	741	725	33.33
1951	1205	6,820	Feb. 1, 1951	33	693	681	2.31	31.31	666	674	31.02
1952	1235	5,650	Jan. 27, 1952	30	635	636	2.16	29.33	566	557	25.71
1953	1275	3,880	Jan. 24, 1953	16	511	515	1.74	23.60	471	466	21.45
1954	1335	4,430	Jan. 21, Mar. 1, 1954	23	575	581	1.29	17.51	587	606	27.83
1955	1385	13,000	Oct. 16, 1954	38	700	697	2.36	32.04	526	516	23.73
1956	1435	11,800	Aug. 8, 1956	41	791	797	2.70	36.75	886	903	41.63
1957	1505	7,850	Feb. 10, 1957	10	568	566	1.92	26.01	554	549	25.29
1958	1555	5,730	Dec. 26, 1957	20	682	684	2.32	31.49	604	595	27.38
1959	1625	4,360	Jan. 22, 1959	14	447	445	1.51	20.48	515	529	24.37
1960	1705	8,760	Mar. 30, 1960	35	622	613	2.08	28.30	-	-	-

^a Adjusted for change in contents in Deep Creek Reservoir.

770. Youghiogheny River Reservoir at Youghiogheny River Dam, Pa.

Location--Lat 39°45'21", long 79°24'00", at bridge on U.S. Highway 40, 500 ft upstream from Stuck Hollow Run, 0.6 mile upstream from Tub Run, and 7.5 miles upstream from Youghiogheny River Dam on Youghiogheny River, Somerset County.

Drainage area--434 sq mi.

Records available--October 1943 to September 1960.

Gage--Water-stage recorder. Datum of gage is at mean sea level. Prior to Mar. 9, 1948, staff gage at dam, same datum.

Extremes--1943-60: Maximum contents, 207,120 acre-ft Aug. 8, 1956 (elevation, 1,456.27 ft); minimum, 845 acre-ft Oct. 11, 1943 (elevation, 1,328.8 ft).

Remarks--Reservoir is formed by an earthfill dam, rock faced; dam completed October 1943. Storage began during construction sometime prior to July 1943; storage for low-flow augmentation commenced January 1948. Capacity, 254,000 acre-ft between elevations 1,319.50 ft (invert at intake to outlet tunnel) and 1,470.00 ft (full pool). Minimum pool elevation is 1,344.0 ft, capacity 5,230 acre-ft. Winter low-water pool elevation is 1,419.0 ft, capacity 103,000 acre-ft. Summer low-water pool elevation is 1,439.0 ft, capacity 154,500 acre-ft. Storage to summer pool normally occurs during period Mar. 15 to Apr. 15. Depletion of low-water storage for Youghiogheny River flow augmentation occurs normally during the period July through November. Figures given herein represent total contents. Reservoir is designated multiple purpose.

Cooperation--Records furnished by Corps of Engineers.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	66,954	63,050	81,500	109,349	103,040	132,453	164,312	158,195	158,527	138,595	97,707	64,152
1952	52,718	55,449	80,360	135,012	77,659	126,427	164,839	156,932	145,468	114,822	86,745	53,913
1953	26,259	18,976	32,296	115,948	100,968	129,317	155,935	156,220	142,777	112,910	82,941	54,384
1954	28,700	13,953	9,865	40,266	58,327	129,705	157,936	159,030	156,733	130,645	139,270	107,643
1955	115,042	78,015	119,850	67,282	114,794	127,195	159,002	154,142	153,802	133,745	119,750	80,920
1956	48,583	35,526	23,068	50,368	124,182	148,241	156,478	183,753	159,606	160,733	156,762	115,213
1957	84,637	54,416	105,119	122,108	102,174	123,170	156,648	155,935	140,296	112,450	82,454	55,232
1958	41,392	27,970	91,311	74,034	73,156	134,458	169,944	154,610	147,434	158,368	134,643	92,192
1959	49,402	32,226	27,296	81,400	96,148	117,296	164,166	153,774	137,974	114,217	86,121	55,616
1960	39,920	53,680	73,780	96,410	84,880	136,720	157,390	160,470	147,100	128,770	104,800	78,350

775. Youghiogheny River at Youghiogheny River Dam, Pa.

Location.--Lat 39°48'20", long 79°21'50", on right bank 800 ft upstream from bridge on State Highway 281, a quarter of a mile downstream from Youghiogheny River Dam, Somerset County, a quarter of a mile south of Confluence, and 0.7 mile upstream from Casselman River.

Drainage area.--436 sq mi.

Records available.--September 1904 to September 1913 (gage heights only), October 1939 to September 1960 in reports of Geological Survey. Published as "near Confluence," 1904-6 and as "at Confluence," 1907-13 (revised). Monthly discharge only for October 1939 to April 1940, published in WSP 1305. Figures of daily discharge prior to January 1911 published in WSP 169, 205, 243, 263, and 283 have been found to be unreliable and should not be used. September 1904 to September 1922 (gage heights only) in reports of Pennsylvania Department of Forests and Waters. Published as "at Confluence" 1904-22.

Gage.--Water-stage recorder. Datum of gage is 1,310.17 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Average discharge.--21 years (1939-60), 848 cfs (adjusted for storage).

Extremes.--1939-60: Maximum discharge, 13,700 cfs Mar. 5, 1948 (gage height, 11.28 ft); maximum gage height, 19.08 ft Oct. 15, 1954 (backwater from Casselman River); practically no flow at times during May and June 1950 when reservoir gates were closed.

Remarks.--Flow regulated since 1925 by Deep Creek Reservoir (see p. 95) and since 1943 by Youghiogheny River Reservoir (see preceding page).

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,027	863	1,214	1,546	1,836	808	870	1,077	1,263	814	885	760	1,075
1952	730	534	692	1,737	871	846	789	1,593	541	681	682	730	949
1953	611	394	509	434	1,478	1,280	933	947	391	537	566	558	715
1954	542	392	276	208	177	225	192	465	715	557	676	957	449
1955	1,604	1,568	1,046	1,848	988	2,242	258	549	745	625	723	842	1,090
1956	681	637	612	187	1,504	1,453	1,179	1,444	1,521	604	1,964	1,264	1,085
1957	858	875	1,108	1,729	2,553	593	702	306	415	580	583	547	892
1958	553	648	730	1,045	755	477	1,282	1,824	440	615	1,105	945	870
1959	818	645	612	493	1,268	794	425	679	408	521	564	566	646
1960	497	524	946	1,284	1,023	489	1,399	1,028	553	481	641	660	793

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.83	1.68	3.92	5.82	4.54	3.46	4.02	2.56	3.26	1.07	0.21	0.16	31.53
1952	.15	1.36	4.08	7.53	1.95	4.81	4.15	3.94	.79	.17	.33	.02	29.26
1953	.03	.52	1.87	5.27	3.26	5.08	3.58	2.49	.28	.01	.06	-.10	22.35
1954	-.08	.06	.45	2.01	1.38	4.20	1.86	1.40	1.94	.28	2.21	.78	16.47
1955	4.65	2.04	4.42	2.40	4.82	7.29	2.11	1.30	1.76	.57	1.19	.13	32.68
1956	.15	.83	.93	1.80	7.70	5.15	3.58	5.13	2.80	1.52	4.87	1.03	35.49
1957	.61	.64	5.44	5.48	5.51	2.51	3.46	.75	.33	.20	.03	.13	25.09
1958	.75	.72	4.76	1.95	1.81	4.25	5.55	4.30	.49	2.03	1.80	.33	28.74
1959	.12	.62	1.18	3.91	4.00	3.21	3.35	1.38	.32	.27	.17	-.03	18.50
1960	.54	1.80	3.39	4.47	1.95	3.82	4.96	2.85	.62	.40	.26	.39	25.45

a Adjusted for change in contents in Deep Creek and Youghiogheny River Reservoirs.

Note.--Negative figures indicate that evaporation and seepage from reservoirs exceeded inflow.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30								Calendar year			
		Observed				Adjusted a/				Observed		Adjusted a/	
		Momentary maximum			Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date										
1950	-	-	-	-	-	-	-	-	1,074	1,068	33.23		
1951	1205	5,100	Feb. 3, 4, 1951	214	1,075	1,012	2.32	31.53	979	985	30.67		
1952	1235	5,860	Jan. 31, Feb. 1	156	949	937	2.15	29.26	912	837	26.11		
1953	1275	4,200	Feb. 4, 1953	66	715	718	1.65	22.35	690	654	20.36		
1954	1335	1,880	June 18, 19	5.4	449	528	1.21	16.47	702	873	27.15		
1955	1385	5,700	Oct. 25, 1954	157	1,090	1,050	2.41	32.68	898	754	23.48		
1956	1435	5,100	June 3, 1956	16	1,085	1,138	2.61	35.49	1,161	1,291	40.27		
1957	1505	3,810	Feb. 13, 14	129	892	807	1.85	25.09	815	791	24.63		
1958	1555	5,400	May 9, 1958	125	870	923	2.14	28.74	882	784	24.43		
1959	1625	3,680	Mar. 18, 1959	2.8	646	594	1.36	18.50	637	716	22.31		
1960	1705	5,260	Apr. 7, 1960	120	793	815	1.87	25.45	-	-	-		

a Adjusted for change in contents in Deep Creek and Youghiogheny River Reservoirs.

MONONGAHELA RIVER BASIN

780. Casselman River at Grantsville, Md.

Location.--Lat 39°42'08", long 79°08'12", on left bank at downstream side of highway bridge, 0.3 mile upstream from Slaabough Run, 0.7 mile downstream from U.S. Highway 40, and 1.0 mile northeast of Grantsville, Garrett County.

Drainage area.--62.5 sq mi.

Records available.--July 1947 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,090 ft (from topographic map).

Average discharge.--13 years (1947-60), 116 cfs.

Extremes.--1947-60: Maximum discharge, 8,400 cfs Oct. 15, 1954 (gage height, 10.70 ft), from rating curve extended above 1,600 cfs on basis of contracted-opening measurement at gage height 8.13 ft and logarithmic plotting; minimum, 0.1 cfs Sept. 29, 1959 (gage height, 0.84 ft), result of regulation from unknown source; minimum daily, 0.3 cfs Sept. 29, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	65.6	63.7	192	261	231	173	205	123	200	66.7	11.7	7.29	134
1952	4.78	40.8	185	333	106	259	244	218	65.9	12.4	8.30	3.11	124
1953	3.71	28.3	73.0	230	179	290	185	133	28.2	7.05	8.46	2.31	97.1
1954	1.65	3.38	14.5	85.7	70.9	204	88.6	73.7	75.2	15.0	87.0	49.7	64.2
1955	288	114	192	135	228	419	112	68.7	114	43.7	77.0	18.2	151
1956	13.3	41.4	35.8	68.5	414	251	210	234	140	58.9	202	27.5	140
1957	20.1	28.1	232	234	282	135	212	54.6	26.3	12.2	4.74	4.03	103
1958	39.7	36.1	208	98.1	103	186	421	220	29.9	41.8	55.2	20.5	122
1959	14.7	38.9	69.6	206	249	174	178	95.3	21.4	22.1	12.5	3.58	89.4
1960	48.9	117	179	222	132	228	282	182	46.6	24.3	8.67	24.7	125

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.21	1.49	3.55	4.81	3.85	3.19	3.65	2.28	3.57	1.23	0.22	0.13	29.18
1952	.09	.75	3.41	6.13	1.82	4.77	4.36	4.02	1.16	.23	.15	.06	26.95
1953	.07	.51	1.35	4.25	2.98	5.35	3.29	2.46	.50	.13	.16	.04	21.09
1954	.03	.06	.27	1.58	1.18	3.76	1.58	1.36	1.34	.28	1.61	.89	13.94
1955	5.30	2.04	3.54	2.48	3.81	7.73	1.99	1.27	2.04	.81	1.42	.33	32.76
1956	.25	.74	.66	1.26	7.14	4.62	3.74	4.31	2.49	1.09	3.73	.49	30.52
1957	.37	.50	4.27	4.32	4.70	2.50	3.78	1.01	.47	.23	.09	.07	22.31
1958	.73	.64	3.84	1.81	1.71	3.44	7.52	4.06	.53	.77	1.02	.37	26.44
1959	.27	.70	1.28	3.79	4.15	3.22	3.18	1.76	.38	.41	.23	.06	19.43
1960	.90	2.08	3.31	4.10	2.28	4.21	5.04	3.36	.85	.45	.16	.44	27.16

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	132	28.59
1951	1205	1,870	June 13, 1951	3.0	134	2.14	29.18	125	27.16
1952	1235	2,180	Mar. 11, 1952	1.8	124	1.98	26.95	113	24.65
1953	1275	1,110	Mar. 24, 1953	1.0	97.1	1.55	21.09	89.9	19.52
1954	1335	1,610	Mar. 1, 1954	1.1	64.2	1.03	13.94	113	24.46
1955	1385	8,400	Oct. 15, 1954	5.6	151	2.42	32.76	108	23.53
1956	1435	3,180	Aug. 6, 1956	7.5	140	2.24	30.52	156	34.01
1957	1505	1,870	Feb. 10, 1957	1.0	103	1.65	22.31	103	22.38
1958	1555	1,810	Apr. 6, 1958	2.4	122	1.95	26.44	108	23.48
1959	1625	1,720	Feb. 10, 1959	.3	89.4	1.43	19.43	108	23.47
1960	1705	2,620	Mar. 30, 1960	3.6	125	2.00	27.16	-	-

785. Big Piney Run near Salisbury, Pa.

Location.--Lat 39°43'32", long 79°02'57", on left bank an eighth of a mile upstream from Little Piney Run, a quarter of a mile north of Maryland-Pennsylvania State line, and 2½ miles southeast of Salisbury, Somerset County.

Drainage area.--24.5 sq mi.

Records available.--June 1932 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,240 ft (from topographic map).

Average discharge.--28 years (1932-60), 38.1 cfs (unadjusted).

Extremes.--1932-60: Maximum discharge, 6,850 cfs Oct. 15, 1954 (gage height, 8.56 ft), from rating curve extended above 500 cfs on basis of slope-area measurements at gage heights 7.5 and 8.56 ft; maximum gage height, 8.87 ft Feb. 22, 1944 (ice jam); minimum discharge, 0.08 cfs Sept. 1, 2-4, 1953, Sept. 6, 7, 8, 1957.

Revisions.--The maximum discharge for the water year 1939 has been revised to 578 cfs Feb. 3, 1939 (gage height, 4.23 ft), superseding figures published in WSP 873 and 1305.

Remarks.--Infrequent regulation at low flow by Frostburg Reservoir. Records do not include a small amount of water diverted 3 miles above station through pumps to city of Frostburg, Md., and since 1938 from spring 700 ft above station by gravity to city of Salisbury.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	21.3	30.1	83.1	100	98.4	70.1	76.1	43.7	60.8	15.3	2.67	1.02	49.9
1952	.635	9.20	62.6	123	41.4	113	84.4	70.0	23.1	3.51	1.48	1.04	44.6
1953	.607	18.9	32.0	90.2	59.5	112	56.9	27.0	13.4	1.49	.949	.773	34.4
1954	.295	.450	2.43	19.0	14.2	87.6	26.1	30.1	17.6	15.7	18.5	17.1	20.9
1955	109	45.4	70.7	34.5	70.2	134	46.2	38.6	68.5	15.9	43.8	4.87	56.8
1956	2.37	7.74	7.20	14.8	125	75.9	73.8	58.8	33.7	9.97	46.9	5.72	38.1
1957	6.23	20.9	75.4	68.4	87.6	50.5	76.1	16.6	4.21	11.99	.478	.417	33.7
1958	18.9	11.1	86.4	37.5	39.9	71.3	181	79.0	10.2	17.6	35.5	4.61	49.4
1959	1.67	6.10	11.0	44.6	64.4	60.3	60.7	31.0	4.26	3.17	3.27	.97	24.0
1960	32.4	35.4	54.8	59.5	47.2	84.8	111	76.4	11.7	7.54	1.83	7.46	44.2

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	42.3	23.45
1951	1205	998	Dec. 7, 1950	0.30	49.9	2.04	27.66	44.7	24.78
1952	1235, 1385	1,360	Mar. 11, 1952	.30	44.6	1.82	24.77	42.8	23.77
1953	1275	675	Nov. 21, 1952	.08	34.4	1.40	19.00	30.4	16.84
1954	1335	1,690	Mar. 1, 1954	.18	20.9	.853	11.56	39.6	21.92
1955	1385	6,850	Oct. 15, 1954	.86	56.8	2.32	31.49	39.3	21.78
1956	1435	835	Aug. 6, 1956	1.0	38.1	1.56	21.17	45.3	25.16
1957	1505	443	Feb. 10, 1957	.09	33.7	1.39	18.69	34.9	19.35
1958	1555	765	Apr. 6, 1958	.17	49.4	2.02	27.40	41.2	22.81
1959	1625	463	Feb. 10, 1959	.1	24.0	.980	13.31	32.8	18.15
1960	1705	1,260	Mar. 30, 1960	.35	44.2	1.80	24.55	-	-

790. Casselman River at Markleton, Pa.

Location.--Lat 39°51'35", long 79°13'40", on right bank at downstream side of highway bridge at Markleton, Somerset County, 2 miles southwest of Casselman and 7 miles downstream from Coxes Creek.

Drainage area.--382 sq mi.

Records available.--August to September 1913 (gage height and discharge measurements only), October 1920 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,655.29 ft above mean sea level, adjustment of 1907. Prior to Nov. 19, 1940, chain gage at same site and datum.

Average discharge.--40 years (1920-60), 647 cfs.

Extremes.--1920-60: Maximum discharge, 50,000 cfs (estimated) Oct. 15, 1954 (gage height, 14.06 ft), on basis of summation of flows at nearby stations; minimum, 10 cfs Sept. 9, 1957 (gage height, 1.10 ft).

Revisions.--The momentary maximum discharge for the water year 1924, published in WSP 1305, has been revised to 33,300 cfs.

Remarks.--Slight diversion above station to city of Frostburg, Md., and to Borough of Salisbury, Pa.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	312	451	1,282	1,676	1,552	1,097	1,350	626	1,067	318	63.1	37.8	814
1952	29.8	216	796	2,067	753	1,694	1,367	1,211	485	109	86.7	35.3	740
1953	23.1	219	541	1,390	1,008	1,738	1,057	917	414	77.2	51.3	24.6	621
1954	14.9	22.6	69.2	379	377	1,280	508	370	270	98.4	390	251	336
1955	1,769	672	1,188	721	1,236	2,201	656	365	742	372	383	90.1	867
1956	78.9	181	190	331	2,324	1,544	1,315	1,457	675	228	842	284	781
1957	155	186	2,306	1,165	1,428	791	1,284	327	196	67.6	24.5	25.4	574
1958	179	142	1,206	622	534	1,275	2,021	1,493	233	202	305	95.9	694
1959	64.8	152	277	968	1,275	956	1,088	680	154	62.9	75.0	25.7	476
1960	281	721	990	1,248	731	1,262	1,518	1,053	370	279	127	211	733

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.94	1.32	3.87	5.06	4.23	3.31	3.94	1.89	3.12	0.96	0.19	0.11	28.94
1952	.09	.63	2.40	6.24	2.13	5.11	3.99	3.65	1.42	.33	.26	.10	26.35
1953	.09	.64	1.63	4.20	2.75	5.25	3.09	2.77	1.21	.23	.15	.07	22.08
1954	.04	.07	.21	1.15	1.03	3.86	1.48	1.12	.79	.30	1.18	.73	11.96
1955	5.34	1.96	3.59	2.18	3.37	6.64	1.92	1.10	2.17	1.12	1.16	.26	30.81
1956	.24	.53	.57	1.00	6.56	4.66	3.84	4.40	1.97	.69	2.54	.83	27.83
1957	.47	.54	3.94	3.52	3.89	2.39	3.75	.99	.57	.20	.07	.07	20.40
1958	.54	.41	3.64	1.88	1.46	3.85	5.90	4.51	.68	.61	.92	.28	24.68
1959	.20	.44	.84	2.92	3.48	2.89	3.18	2.05	.45	.19	.23	.08	16.95
1960	.85	2.11	2.99	3.77	2.06	3.81	4.43	3.18	1.08	.84	.38	.62	26.12

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	753	26.77
1951	1205	10,200	June 13, 1951	20	814	2.13	28.94	730	25.93
1952	1235	12,800	Mar. 11, 1952	18	740	1.94	26.35	718	25.59
1953	1275	9,940	May 31, 1953	13	621	1.63	22.08	564	20.04
1954	1335	12,500	Mar. 1, 1954	12	336	.880	11.96	634	22.53
1955	1385	50,000	Oct. 15, 1954	40	867	2.27	30.81	598	21.26
1956	1435	8,740	Feb. 2, 1956	46	781	2.04	27.83	682	31.44
1957	1505	10,600	Dec. 14, 1956	11	574	1.50	20.40	564	20.04
1958	1555	9,630	May 6, 1958	18	694	1.82	24.68	607	21.57
1959	1625	11,800	Feb. 10, 1959	14	478	1.25	16.95	602	21.42
1960	1705	15,500	Mar. 30, 1960	34	733	1.92	26.12	-	-

800. Laurel Hill Creek at Ursina, Pa.

Location.--Lat 39°49'15", long 79°19'15", on right bank 500 ft downstream from bridge on State Highway 53, at Ursina, Somerset County, and 2.7 miles upstream from mouth.

Drainage area.--121 sq mi.

Records available.--August to September 1913 (gage heights and discharge measurement only), October 1918 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder and masonry control. Datum of gage is 1,335.26 ft above mean sea level, unadjusted. Prior to July 18, 1939, chain gage at bridge half a mile downstream at datum 6.20 ft lower.

Average discharge.--42 years (1918-60), 264 cfs.

Extremes.--1918-60: Maximum discharge, 10,900 cfs Oct. 15, 1954 (gage height, 10.63 ft), from rating curve extended above 6,100 cfs on basis of slope-area measurement of peak flow; minimum, 2.2 cfs Sept. 26, 1932.

Revisions.--The momentary maximum discharge for the water year 1932, published in WSP 1305, has been revised to 3,000 cfs.

Remarks.--Slight regulation at low flow by mills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	90.0	197	412	630	547	409	527	221	433	89.3	17.6	14.7	297
1952	11.6	147	369	798	275	623	514	528	151	50.0	38.2	14.0	294
1953	12.7	50.8	231	496	365	584	447	358	150	34.1	25.4	18.3	231
1954	7.78	11.1	77.8	266	253	455	315	178	125	36.3	196	158	173
1955	564	212	458	283	494	889	306	166	319	85.4	64.6	17.7	322
1956	43.8	127	102	151	1,000	587	542	600	248	107	366	188	336
1957	75.5	65.3	475	358	519	290	547	143	135	27.6	10.7	9.79	219
1958	66.1	93.2	474	212	178	449	661	560	126	128	163	68.8	266
1959	53.0	152	189	468	527	344	416	314	96.0	22.8	25.0	5.73	216
1960	44.9	249	424	456	260	369	574	371	154	85.3	65.2	95.4	262

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.86	1.82	3.92	6.00	4.71	3.90	4.86	2.11	3.99	0.85	0.17	0.14	33.33
1952	.11	1.36	3.52	7.60	2.45	5.94	4.74	5.03	1.39	.48	.36	.13	33.11
1953	.12	.47	2.20	4.73	3.14	5.57	4.12	3.41	1.58	.32	.24	.17	25.87
1954	.07	.10	.74	2.53	2.18	4.34	2.91	1.70	1.16	.35	1.87	1.45	19.40
1955	5.38	1.96	4.36	2.70	4.26	8.47	2.83	1.59	2.94	.81	.62	.16	36.08
1956	.42	1.17	.97	1.44	8.91	5.59	4.99	5.72	2.29	1.01	3.49	1.73	37.73
1957	.72	.60	4.52	3.41	4.46	2.76	5.05	1.37	1.24	.26	.10	.09	24.58
1958	.63	.86	4.51	2.02	1.53	4.27	6.10	5.33	1.17	1.21	1.55	.63	29.81
1959	.50	1.40	1.80	4.46	4.54	3.28	3.83	3.00	.89	.22	.24	.05	24.21
1960	.43	2.30	4.04	4.35	2.31	3.52	5.29	3.53	1.42	.81	.62	.88	29.50

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	290	32.55
1951	1205	4,900	June 13, 1951	8.5	297	2.45	33.33	283	31.72
1952	1235	4,900	Jan. 27, 1952	7.8	294	2.43	33.11	275	30.91
1953	1275	2,180	Mar. 24, 1953	6.5	231	1.91	25.87	214	23.99
1954	1335	1,920	Mar. 1, Sept. 15	6.2	173	1.43	19.40	269	30.19
1955	1385	10,900	Oct. 15, 1954	6.0	322	2.66	36.08	240	26.94
1956	1435	6,250	Aug. 6, 1956	11	336	2.78	37.73	365	41.01
1957	1505	2,700	Dec. 14, 1956	2.8	219	1.81	24.58	221	24.74
1958	1555	2,940	May 4, 1958	5.4	266	2.20	29.81	245	27.51
1959	1625	4,300	Feb. 10, 1959	5.3	216	1.79	24.21	243	27.28
1960	1705	4,170	Mar. 31, 1960	7.0	262	2.17	29.50	-	-

810. Youghiogheny River below Confluence, Pa.

Location.--Lat 39°49'40", long 79°22'25", on left bank 1.0 mile downstream from Casselman River and 1½ miles downstream from Confluence, Somerset County.

Drainage area.--1,029 sq mi.

Records available.--June 1940 to September 1960. Monthly discharge only for June 1940, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,302.77 ft above mean sea level, unadjusted.

Average discharge.--20 years (1940-60), 1,954 cfs (adjusted for storage).

Extremes.--1940-60: Maximum discharge, 69,500 cfs Oct. 15, 1954 (gage height, 19.92 ft), from rating curve extended above 25,000 cfs on basis of slope-area measurement of peak flow; minimum, 40 cfs Oct. 14, 1943 (gage height, 0.31 ft); minimum daily, 121 cfs Sept. 27, 1943.

Maximum stage known, 21.6 ft Mar. 17 or 18, 1936, from floodmarks (discharge, 85,000 cfs).

Remarks.--Flow regulated since 1925 by Deep Creek Reservoir and since 1943 by Youghiogheny River Reservoir (see p. 95,96).

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,595	1,749	3,583	4,321	4,425	2,634	3,140	2,180	3,157	1,254	993	832	2,459
1952	767	938	2,056	5,149	3,126	3,576	3,008	3,660	1,257	815	795	798	2,164
1953	660	684	1,555	2,629	3,229	4,094	2,833	2,512	1,047	678	672	634	1,745
1954	597	433	434	980	903	2,286	1,186	1,157	1,219	742	1,460	1,500	1,074
1955	4,580	2,526	2,980	3,001	3,098	5,985	1,489	1,194	2,036	1,130	1,290	1,006	2,530
1956	855	999	956	755	5,204	3,835	3,294	3,783	2,547	1,014	3,565	1,871	2,377
1957	1,121	1,165	3,519	3,589	4,875	1,857	2,858	845	768	692	595	574	1,836
1958	819	892	2,592	2,065	1,578	2,540	4,424	4,317	866	1,094	1,789	1,191	2,019
1959	1,011	1,009	1,193	2,336	3,668	2,383	2,250	1,906	707	608	654	574	1,512
1960	821	1,642	2,659	3,399	2,260	2,392	3,866	2,728	1,180	911	873	1,033	1,979

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.99	1.67	4.09	5.58	4.54	3.52	4.16	2.32	3.44	0.95	0.21	0.15	31.62
1952	.10	1.02	3.25	7.01	2.15	5.10	4.16	3.99	1.11	.24	.27	.08	28.48
1953	.07	.54	1.74	4.69	3.16	5.30	3.58	2.81	.83	.16	.15	.04	23.07
1954	.03	.07	.37	1.69	1.32	4.08	1.86	1.56	1.37	.32	1.82	.92	15.21
1955	5.30	1.91	4.04	2.31	4.18	7.27	2.23	1.27	2.14	.81	1.14	.23	32.83
1956	.26	.75	.78	1.40	7.14	4.85	3.80	4.80	2.30	1.10	3.85	1.10	32.13
1957	.55	.58	4.78	4.40	4.69	2.48	3.80	.92	.52	.21	.05	.09	23.07
1958	.62	.57	4.10	1.97	1.60	4.12	5.76	4.61	.67	1.40	1.53	.41	27.36
1959	.27	.66	1.15	3.72	4.12	3.14	3.39	1.96	.46	.21	.17	.004	19.25
1960	.59	1.97	3.35	4.27	2.12	3.75	4.78	3.11	.94	.65	.37	.57	26.47

a Adjusted for change in contents in Deep Creek and Youghiogheny River Reservoirs.

Note.--Negative figures indicate that evaporation and seepage from reservoirs exceeded inflow.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Observed				Adjusted a/		Observed	Adjusted a/	Runoff	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	2,392	2,386	31.47	
1951	1205	16,200	June 13, 1951	675	2,459	2,396	2.33	31.62	2,309	2,215	29.24
1952	1235	18,900	Mar. 11, 1952	551	2,164	2,152	2.09	28.48	2,075	2,000	26.46
1953	1275	11,400	May 31, 1953	343	1,745	1,748	1.70	23.07	1,641	1,606	21.19
1954	1335	14,400	Mar. 1, 1954	301	1,074	1,154	1.12	15.21	1,801	1,972	25.99
1955	1385	69,500	Oct. 15, 1954	664	2,530	2,490	2.42	32.83	1,916	1,772	25.37
1956	1435	15,900	Aug. 6, 1956	310	2,377	2,430	2.36	32.13	2,613	2,743	36.25
1957	1505	15,000	Dec. 14, 1956	515	1,836	1,751	1.70	23.07	1,726	1,702	22.45
1958	1555	15,000	May 5, 1958	530	2,019	2,072	2.01	27.36	1,926	1,828	24.15
1959	1625	17,200	Feb. 10, 1959	495	1,512	1,460	1.42	19.25	1,672	1,751	23.08
1960	1705	23,300	Mar. 30, 1960	557	1,979	2,001	1.94	26.47	-	-	-

a Adjusted for change in contents in Deep Creek and Youghiogheny River Reservoirs.

825. Youghiogheny River at Connellsville, Pa.

Location.--Lat 40°01'05", long 79°35'40", on left bank at downstream side of Crawford Avenue Bridge in Connellsville, Fayette County, three-quarters of a mile upstream from Mounts Creek.

Drainage area.--1,326 sq mi.

Records available.--July 1908 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 860.13 ft above mean sea level (Baltimore & Ohio RR. bench mark). Prior to Aug. 15, 1928, chain gage and Aug. 15, 1928, to July 7, 1958, water-stage recorder, at same site and datum. July 8, 1958, to Sept. 8, 1959, wire-weight gage at site 0.4 mile downstream at different datum.

Average discharge.--52 years (1908-60), 2,508 cfs (adjusted for storage since 1925).

Extremes.--1908-60: Maximum discharge, 103,000 cfs Oct. 16, 1954 (gage height, 21.96 ft), from rating curve extended above 55,000 cfs by logarithmic plotting; minimum, 11 cfs Sept. 23, 26, 27, 1908, Oct. 18, 1910 (gage height, 0.11 ft).

Remarks.--Flow regulated since 1925 by Deep Creek Reservoir (see p. 95) and since 1943 by Youghiogheny River Reservoir (see p. 96), and by several smaller reservoirs above station.

Correction.--In WSP 1305, the computed figures for December 1915 and July 1932 are listed in error; corrected figures are given herewith:

Month	Mean	Adjusted mean	Per square mile	Runoff in inches
December 1915.....	4,110	-	3.10	3.57
Calendar year 1915.....	2,580	-	1.95	26.41
Water year 1915-16.....	3,021	-	2.28	31.01
July 1932.....	1,190	1,034	.780	.90
Water year 1931-32.....	2,225	2,180	1.64	22.58
Calendar year 1932.....	2,020	1,980	1.49	20.36

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,765	2,248	4,462	5,601	5,629	3,541	4,415	2,901	4,042	1,453	1,030	856	3,145
1952	793	1,240	2,875	6,792	4,011	4,731	4,075	4,898	1,650	943	885	814	2,812
1953	702	767	1,846	3,869	4,129	5,285	5,847	3,162	1,354	746	721	661	2,629
1954	585	429	554	1,283	1,327	3,218	2,036	1,662	1,582	770	1,780	1,886	1,410
1955	5,938	2,989	4,141	3,715	4,445	6,388	2,215	1,558	2,652	1,316	1,418	1,024	3,319
1956	1,003	1,284	1,158	1,183	7,374	5,175	4,528	5,067	3,317	1,405	4,772	2,435	3,206
1957	1,333	1,354	4,400	4,489	5,980	2,572	4,106	1,229	966	777	625	582	2,343
1958	924	1,043	3,456	2,680	2,008	3,657	5,548	5,611	1,186	1,471	2,220	1,310	2,601
1959	1,145	1,309	1,675	3,521	4,612	3,202	5,132	2,815	971	1,671	758	604	2,002
1960	909	2,110	3,403	4,184	2,759	3,411	4,770	3,228	1,417	1,034	1,003	1,214	2,453

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.91	1.72	4.12	5.44	4.47	3.52	4.31	2.43	3.41	0.91	0.19	0.13	31.56
1952	.10	1.04	3.23	6.87	2.38	4.96	4.13	4.17	1.19	.30	.28	.08	28.73
1953	.09	.49	1.78	4.72	3.16	5.15	3.63	2.74	.90	.19	.16	.05	23.06
1954	.01	.05	.39	1.59	1.35	3.98	2.16	1.50	1.36	.27	1.69	.87	15.22
1955	5.29	1.86	4.14	2.41	4.30	7.74	2.34	1.30	2.19	.79	.99	.20	33.55
1956	.33	.82	.78	1.45	7.31	4.93	3.99	4.84	2.43	1.20	4.05	1.33	33.46
1957	.61	.61	4.66	4.20	4.49	2.55	4.01	1.05	.57	.24	.06	.07	23.12
1958	.57	.57	3.93	2.06	1.56	4.16	5.41	4.70	.79	1.42	1.56	.42	27.17
1959	.32	.76	1.31	3.75	3.94	3.15	3.38	2.31	.58	.22	.22	.02	19.96
1960	.54	1.93	3.25	3.99	2.05	3.79	4.47	2.65	.93	.61	.40	.59	25.40

a Adjusted for change in contents in Deep Creek and Youghiogheny River Reservoirs.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30								Calendar year		
		Observed					Adjusted a/			Observed		Adjusted a/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date									
1950	-	-	-	-	-	-	-	-	3,042	3,036	31.06	
1951	1205	23,700	June 13, 1951	500	3,145	3,082	2.32	31.56	2,845	2,851	29.18	
1952	1235	23,700	Jan. 27, Mar. 11	560	2,812	2,800	2.11	28.73	2,678	2,603	26.72	
1953	1275	12,800	Mar. 24, 1953	350	2,249	2,252	1.70	23.06	2,101	2,066	21.15	
1954	1335	17,800	Mar. 1, 1954	330	1,410	1,490	1.12	15.22	2,379	2,550	26.06	
1955	1385	103,000	Oct. 16, 1954	821	3,319	3,278	2.47	33.55	2,507	2,363	24.19	
1956	1435	42,400	Aug. 6, 1956	360	3,206	3,259	2.46	33.46	3,514	3,644	37.41	
1957	1505	21,900	Dec. 14, 1956	530	2,343	2,258	1.70	23.12	2,203	2,179	22.31	
1958	1555	19,900	May 6, 1958	530	2,601	2,654	2.00	27.17	2,481	2,394	24.49	
1959	1625	18,200	Feb. 11, 1959	540	2,002	1,950	1.47	19.96	2,195	2,274	23.29	
1960	1705	35,200	Mar. 31, 1960	595	2,453	2,475	1.87	25.40	-	-	-	

a Adjusted for change in contents in Deep Creek and Youghiogheny River Reservoirs.

830. Green Lick Run at Green Lick Reservoir, Pa.

Location.--Lat 40°06'20", long 79°30'05", on left bank at upstream end of Green Lick Reservoir, Fayette County, 1.3 miles upstream from Latter Run and 3½ miles southeast of Mount Pleasant.

Drainage area.--3.07 sq mi.

Records available.--August 1941 to September 1960.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 1,254.7 ft above mean sea level (Pennsylvania RR. bench mark).

Average discharge.--19 years (1941-60), 5.58 cfs.

Extremes.--1941-60: Maximum discharge, 1,400 cfs Aug. 13, 1943 (gage height, 5.1 ft, backwater from debris), by slope-area measurement; maximum gage height, 5.42 ft May 24, 1944 (backwater from debris); minimum discharge, 0.04 cfs Oct. 3, 1957 (gage height, 0.10 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.591	4.28	13.1	12.5	12.3	10.1	14.6	4.72	9.62	2.26	0.240	0.283	7.00
1952	.199	2.66	7.85	14.9	6.47	9.39	14.7	13.0	3.30	.948	.646	.163	6.20
1953	.204	.910	5.40	11.9	5.65	11.2	10.1	9.62	1.77	.810	.267	.270	4.85
1954	.130	.143	1.35	4.49	3.89	7.83	8.30	4.17	2.18	.670	6.52	.542	3.35
1955	6.91	2.85	9.88	4.88	12.6	18.4	5.34	1.73	6.22	1.40	2.32	.319	6.05
1956	1.72	4.31	2.09	5.71	18.8	15.2	13.3	11.6	4.46	1.14	5.88	9.36	7.73
1957	1.76	1.10	9.19	8.90	9.48	5.49	12.1	2.19	1.61	.400	.181	.148	4.34
1958	.410	.751	5.72	6.30	5.61	11.1	5.88	9.71	3.29	4.20	2.97	1.51	4.80
1959	1.59	2.90	5.14	11.5	10.3	7.87	9.31	6.08	3.47	.793	.478	.184	4.94
1960	.702	5.14	8.47	9.68	5.54	9.52	5.49	6.95	3.52	.683	.580	1.30	4.80

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.22	1.56	4.92	4.68	4.17	3.79	5.32	1.77	3.50	0.85	0.09	0.10	30.97
1952	.07	.97	2.95	5.59	2.27	3.53	5.35	4.90	1.20	.36	.24	.06	27.49
1953	.08	.33	2.03	4.46	1.92	4.21	3.68	3.61	.64	.30	.10	.10	21.46
1954	.05	.05	.51	1.68	1.32	2.94	3.02	1.57	.79	.25	2.45	.20	14.83
1955	2.59	1.04	3.71	1.83	4.29	6.92	1.94	.65	2.26	.53	.87	.12	26.75
1956	.65	1.57	.78	2.15	6.60	5.71	4.83	4.34	1.62	.43	2.21	3.40	34.29
1957	.66	.40	3.45	3.34	3.21	2.06	4.38	.82	.58	.15	.07	.05	19.17
1958	.15	.27	2.15	2.36	1.90	4.17	2.14	3.65	1.20	1.58	1.12	.55	21.24
1959	.60	1.05	1.93	4.33	3.51	2.95	3.38	2.28	1.26	.30	.18	.07	21.84
1960	.26	1.87	3.18	3.63	1.94	3.58	1.99	2.61	1.28	.26	.22	.47	21.29

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	6.22	27.55
1951	1205	270	June 13, 1951	0.15	7.00	2.28	30.97	6.39	28.26
1952	1235	238	May 25, 1952	.09	6.20	2.02	27.49	5.85	25.94
1953	1275	153	May 6, 1953	.09	4.85	1.58	21.46	4.44	19.63
1954	1335	466	Aug. 16, 1954	.07	3.35	1.09	14.83	4.68	21.56
1955	1385	860	Oct. 15, 1954	.08	6.05	1.97	26.75	5.07	22.41
1956	1435	324	Aug. 5, 1956	.2	7.73	2.52	34.29	6.07	35.80
1957	1505	74	Apr. 18, 1957	.07	4.34	1.41	19.17	3.90	17.23
1958	1555	103	May 3, 1958	.05	4.80	1.56	21.24	5.03	22.25
1959	1625	189	Feb. 10, 1959	.10	4.94	1.61	21.84	5.33	23.57
1960	1705	258	June 22, 1960	.10	4.80	1.56	21.29	-	-

835. Youghiogheny River at Sutersville, Pa.

Location.--Lat 40°14'25", long 79°48'25", on left bank 500 ft upstream from highway bridge at Sutersville, Westmoreland County, and 2.1 miles downstream from Sewickley Creek.

Drainage area.--1,715 sq mi.

Records available.--October 1920 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 733.36 ft above mean sea level, datum of 1929, supplementary adjustment of 1944. Prior to Oct. 9, 1934, chain gage and Oct. 9, 1934, to May 31, 1939, wire-weight gage, at site 500 ft downstream at same datum.

Average discharge.--40 years (1920-60), 2,957 cfs (adjusted for storage since 1925).

Extremes.--1920-60: Maximum discharge, 108,000 cfs Oct. 16, 1954 (gage height, 32.5 ft, from floodmark); minimum observed, 57 cfs Sept. 29, 30, 1922.

Remarks.--Flow regulated since 1925 by Deep Creek Reservoir and since 1943 by Youghiogheny River Reservoir (see p.95,96), and by several smaller reservoirs above station. Records of chemical analyses for the period October 1958 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,909	2,898	5,890	6,543	6,848	4,401	5,565	3,558	5,147	1,825	1,109	929	3,865
1952	827	1,368	3,328	6,036	4,759	5,591	5,163	5,876	2,079	1,184	1,041	922	3,352
1953	795	855	2,074	4,498	4,498	6,061	4,688	4,040	1,637	914	785	720	2,622
1954	657	474	596	1,529	1,564	3,819	2,625	1,938	1,863	918	2,054	1,910	1,664
1955	7,006	3,078	4,615	4,276	5,540	9,770	2,646	1,752	3,074	1,519	1,668	1,115	3,839
1956	1,150	1,740	1,384	1,496	9,081	6,675	5,689	5,978	3,881	1,716	5,707	3,085	3,941
1957	1,577	1,486	5,115	5,197	6,903	3,129	5,345	1,448	1,113	861	697	657	2,767
1958	1,026	1,141	3,692	3,299	2,527	4,202	5,772	6,556	1,346	1,984	2,594	1,554	3,001
1959	1,516	1,462	1,941	4,162	5,601	3,775	3,866	3,369	1,205	815	862	672	2,403
1960	1,051	2,425	4,266	5,285	3,691	3,600	5,710	3,689	1,816	1,238	1,132	1,360	2,970

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.80	1.75	4.14	4.84	4.20	3.30	4.08	2.32	3.36	0.95	0.20	0.15	30.09
1952	.10	.90	2.80	6.14	2.32	4.42	3.90	3.69	1.20	.39	.33	.13	26.52
1953	.13	.43	1.52	4.07	2.67	4.51	3.36	2.71	.88	.26	.16	.08	20.78
1954	.06	.07	.33	1.40	1.21	3.48	2.05	1.35	1.24	.31	1.49	.82	13.81
1955	4.81	1.51	3.52	2.25	3.99	6.91	2.09	1.14	1.96	.75	.94	.21	30.08
1956	.35	.93	.76	1.34	6.72	4.82	3.84	4.36	2.25	1.13	3.76	1.45	31.71
1957	.64	.56	4.08	3.72	4.04	2.34	3.90	.96	.54	.24	.10	.10	21.22
1958	.51	.50	3.33	2.01	1.53	3.59	4.33	4.28	.71	1.44	1.46	.46	24.17
1959	.36	.69	1.19	3.46	5.64	2.81	3.10	2.16	.60	.27	.24	.06	18.56
1960	.51	1.70	3.09	3.83	2.16	3.19	4.06	2.65	.98	.61	.40	.55	23.75

a Adjusted for change in contents in Deep Creek and Youghiogheny River Reservoirs.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30								Calendar year		
		Observed				Adjusted a/				Observed		Adjusted a/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date									
1950	-	-	-	-	-	-	-	-	3,684	3,678	29.11	
1951	1205	29,500	June 14, 1951	741	3,865	3,802	2.22	30.09	3,432	3,438	27.20	
1952	1235	33,200	Jan. 27, 1952	626	3,352	3,340	1.95	26.52	3,200	3,125	24.80	
1953	1275	15,300	Mar. 24, 1953	420	2,622	2,625	1.53	20.78	2,454	2,418	19.16	
1954	1335	19,900	Mar. 2, 1954	343	1,664	1,744	1.02	13.81	2,759	2,930	23.19	
1955	1385	108,000	Oct. 16, 1954	930	3,639	3,798	2.21	30.08	2,958	2,814	22.28	
1956	1435	52,600	Aug. 6, 1956	420	3,941	3,994	2.33	31.71	4,272	4,402	34.95	
1957	1505	23,400	Dec. 15, 1956	575	2,767	2,682	1.56	21.22	2,588	2,564	20.26	
1958	1555	21,900	May 6, 1958	575	3,001	3,054	1.78	24.17	2,886	2,788	22.07	
1959	1625	27,600	Feb. 11, 1959	594	2,403	2,351	1.37	18.58	2,657	2,736	21.64	
1960	1705	38,400	Mar. 31, 1960	666	2,970	2,992	1.74	23.75	-	-	-	

a Adjusted for change in contents in Deep Creek and Youghiogheny River Reservoirs.

840. Abers Creek near Murrys ville, Pa.

Location.--Lat 40°27'01", long 79°42'50", on right bank at downstream side of highway bridge, 30 ft upstream from small tributary, 2 miles northwest of Murrys ville, Westmoreland County, and 5½ miles northwest of Export.

Drainage area.--4.39 sq mi.

Records available.--October 1948 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 936.73 ft above mean sea level (Pennsylvania Department of Highways bench mark). Prior to Oct. 1, 1950, water-stage recorder at site 800 ft upstream at different datum.

Average discharge.--12 years (1948-60), 5.23 cfs.

Extremes.--1948-60: Maximum discharge, 1,600 cfs July 5, 1950 (gage height, 7.72 ft, from floodmarks at present site), from rating curve extended above 900 cfs on basis of contracted-opening measurement of peak flow; no flow at times during some years.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.845	7.81	17.2	16.8	17.4	13.0	15.9	5.29	12.7	6.10	0.358	0.603	9.45
1952	.852	2.77	8.17	16.3	10.6	13.8	10.8	7.86	5.93	1.44	1.44	.510	6.71
1953	.313	.850	3.05	9.86	6.79	9.89	8.00	7.51	2.75	2.28	1.28	.470	4.41
1954	.28	.37	1.08	3.43	3.06	8.64	9.24	4.32	1.97	.31	1.48	.65	2.90
1955	15.0	2.13	9.74	5.55	15.2	14.6	7.18	1.76	1.51	.66	2.18	.32	6.29
1956	1.33	3.64	1.39	2.73	19.0	16.2	12.8	8.90	3.61	5.00	5.30	2.93	6.85
1957	2.38	.987	6.96	6.53	9.05	7.79	17.0	1.97	.713	.232	0	.160	4.44
1958	.15	.56	6.70	4.44	5.66	8.05	6.19	11.7	.82	4.75	7.09	3.32	4.97
1959	1.13	1.96	4.45	11.9	10.1	8.75	10.2	3.73	.67	.38	6.47	1.00	5.03
1960	3.33	5.47	9.81	10.3	8.10	8.85	6.25	6.59	1.67	1.17	.98	1.09	5.31

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.22	1.99	4.51	4.42	4.13	3.42	4.05	1.39	3.24	1.60	0.09	0.15	29.21
1952	.22	.70	2.15	4.28	2.61	3.62	2.75	2.06	1.51	.38	.38	.13	20.79
1953	.08	.21	.80	2.59	1.61	2.60	2.03	1.97	.69	.60	.34	.12	13.64
1954	.07	.09	.28	.90	.73	2.27	2.35	1.13	.50	.08	.39	.17	8.96
1955	3.94	.54	2.56	1.46	3.61	3.82	1.83	.46	.38	.17	.57	.08	19.42
1956	.35	.92	.37	.72	4.67	4.26	3.24	2.34	.92	1.31	1.39	.75	21.24
1957	.63	.25	1.83	1.72	2.15	2.05	4.33	.52	.18	.06	0	.04	13.76
1958	.04	.14	1.76	1.17	1.34	2.11	1.57	3.06	.21	1.25	1.86	.84	15.35
1959	.30	.50	1.17	3.11	2.39	2.30	2.59	.98	.17	.10	1.70	.25	15.56
1960	.68	1.39	2.58	2.71	1.99	2.32	1.59	1.73	.42	.31	.26	.28	16.46

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	7.99	24.82
1951	1205	490	Jan. 15, 1951	0.2	9.45	2.15	29.21	8.27	25.56
1952	1235	1,000	June 22, 1952	.1	6.71	1.53	20.79	6.07	18.61
1953	1275	308	July 5, 1953	.1	4.41	1.00	13.64	4.21	12.99
1954	1335	226	Apr. 16, 1954	0	2.90	.661	8.96	5.03	15.56
1955	1385	950	Oct. 15, 1954	.1	6.29	1.43	19.42	4.54	14.02
1956	1435	500	Feb. 25, 1956	.2	6.85	1.58	21.24	7.19	22.31
1957	1505	322	Apr. 5, 1957	0	4.44	1.01	13.76	4.20	12.99
1958	1555	320	July 22, 1958	0	4.97	1.13	15.35	4.97	15.38
1959	1625	1,100	Aug. 28, 1959	0	5.03	1.15	15.56	5.96	18.44
1960	1705	108	Oct. 8, 1959	.2	5.31	1.21	16.46	-	-

845. Turtle Creek at Trafford, Pa.

Location.--Lat 40°23'15", long 79°45'55", on left bank at Trafford, Westmoreland County, 500 ft upstream from Brush Creek and 5.8 miles upstream from mouth.

Drainage area.--55.9 sq mi.

Records available.--October 1920 to March 1953, March to September 1953 (discharge measurements only) in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1305. July to September 1914 and January 1916 to September 1920 (gage heights and discharge measurements only) in reports of the Water Supply Commission of Pennsylvania.

Gage.--Water-stage recorder and concrete control. Datum of gage is 765.08 ft above mean sea level, adjustment of 1907. Prior to Oct. 1, 1938, chain gage at site 1 mile upstream at different datum. Oct. 1 to Nov. 12, 1938, staff gage and Nov. 13, 1938, to Sept. 2, 1946, water-stage recorder, at present site and datum. Sept. 3, 1946, to Nov. 12, 1947, wire-weight gage at site 50 ft downstream at datum 4.0 ft lower.

Average discharge.--32 years (1920-52), 76.8 cfs (adjusted for diversion since 1952).

Extremes.--1920-53: Maximum discharge, 5,200 cfs May 27, 1946 (gage height, 10.05 ft), from rating curve extended above 3,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 0.1 cfs Oct. 6, 7, 1922, Sept. 16, 17, 28, 1939. Maximum discharge known, 7,440 cfs Oct. 15, 1954 (gage height, 12.8 ft, from high-water marks) on basis of slope-area measurement of peak flow.

Remarks.--Some regulation at low flow by industrial plants above station. Runoff adjusted for slight diversion into basin from Thorn Run in the Kiskiminetas River basin since December 1951.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.54	101	207	206	217	152	171	52.8	199	75.5	10.1	7.36	117
1952	3.89	40.8	103	223	137	147	148	111	48.4	16.5	17.8	6.02	83.4
1953	4.64	7.94	30.5	112	77.1	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.20	2.02	4.27	4.25	4.04	3.12	3.40	1.09	3.98	1.56	0.21	0.15	28.29
1952	.08	.81	2.10	4.58	2.62	3.01	2.91	2.27	.94	.33	.36	.11	20.12
1953	.09	.15	.61	2.27	1.41	-	-	-	-	-	-	-	-

a Adjusted for diversion from Thorn Run in the Kiskiminetas River basin since December 1951.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted a/			Observed	Adjusted a/	
		Momentary maximum		Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	97.2	-	23.60	
1951	1205	3,140	Jan. 15, 1951	3.0	117	-	2.09	28.29	102	24.79	
1952	1235	2,670	Jan. 26, 1952	2.1	83.4	82.6	1.48	20.12	74.7	73.9	
1953	1275	860	Jan. 10, 1953	-	-	-	-	-	-	-	

a Adjusted for diversion from Thorn Run in the Kiskiminetas River basin since December 1951; no diversion prior to that date.

MONONGAHELA RIVER BASIN

850. Monongahela River at Braddock, Pa.

Location.--Lat 40°23'30", long 79°51'30", near right bank on river guide wall 380 ft upstream from dam at lock 2, at Braddock, Allegheny County, 1,700 ft downstream from Turtle Creek, and 11.2 miles upstream from confluence with Allegheny River.

Drainage area.--7,337 sq mi.

Records available.--October 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder and concrete dam. Datum of gage is 707.16 ft above mean sea level, adjustment of 1929. Prior to Aug. 13, 1951, at site 700 ft upstream at same datum.

Average discharge.--22 years (1938-60), 12,440 cfs (adjusted for storage and diversion).

Extremes.--1938-60: Maximum discharge, 201,000 cfs June 5, 1941 (gage height, 31.20 ft); minimum, 559 cfs Sept. 20, 22, 23, 1946; minimum daily, 703 cfs Sept. 3, 4, 22, 1946; minimum gage height, 12.01 ft Oct. 7-13, 1943.

Maximum stage known, 38.8 ft Mar. 18, 1936, from floodmarks (discharge, 210,000 cfs).

Remarks.--Flow regulated by locks and hydroelectric plants, since 1938 by Tygart River Reservoir, since 1926 by Lake Lynn, since 1925 by Deep Creek Reservoir, and since 1943 by Youghiogheny River Reservoir, combined capacity, 718,960 acre-ft. Figures of discharge include slight diversion from Beaver Run Reservoir and Thorn Run, in the Kiskiminetas River basin, to the Borough of Jeannette and into Turtle Creek, respectively, since December 1951. Records of chemical analyses and water temperatures for the period October 1958 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,455	14,110	28,970	27,440	32,250	20,450	26,180	14,710	20,270	7,835	2,586	2,372	16,770
1952	1,589	7,120	18,290	36,150	17,090	21,590	19,270	20,830	5,473	3,270	3,271	1,832	13,010
1953	1,689	2,207	7,680	20,940	18,690	20,820	19,400	16,110	3,384	2,555	2,602	1,508	9,761
1954	1,200	971	2,748	9,644	6,387	18,760	11,050	7,322	5,489	4,259	10,860	4,417	6,946
1955	21,940	9,823	18,020	14,780	27,590	38,940	9,726	6,535	7,357	3,100	6,064	1,996	13,780
1956	2,640	6,010	5,614	6,939	43,120	31,340	20,310	22,450	17,870	10,640	23,720	7,293	16,390
1957	4,081	5,691	24,760	22,640	31,880	13,750	20,250	4,813	3,480	3,077	1,531	1,500	11,530
1958	3,373	4,499	22,080	14,770	13,380	17,500	21,390	25,350	5,734	15,620	17,290	4,155	13,800
1959	3,263	5,465	7,598	20,380	21,540	14,770	16,000	11,350	4,284	2,280	2,656	1,835	9,211
1960	5,610	8,734	18,420	21,810	15,940	14,940	23,890	13,310	5,582	2,893	4,125	6,452	11,620

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.66	1.97	4.61	4.46	4.53	3.35	4.20	2.37	3.09	1.15	0.21	0.22	30.82
1952	.08	1.02	3.06	5.95	2.19	3.55	3.24	3.32	.81	.38	.41	.09	24.10
1953	.10	.27	1.20	3.55	2.64	3.44	3.10	2.62	.48	.30	.29	.05	18.04
1954	.03	.04	.39	1.63	1.01	3.10	1.92	1.26	.85	.59	1.73	.53	13.08
1955	3.41	1.25	3.09	1.97	4.11	6.14	1.76	1.08	1.10	.41	.69	.10	25.31
1956	.27	.83	.79	1.42	6.40	5.06	3.17	3.77	2.53	1.69	3.67	.97	30.57
1957	.51	.63	3.99	3.83	4.26	2.27	3.32	.80	.48	.38	.08	.10	20.65
1958	.52	.53	3.59	2.25	2.05	2.81	3.66	3.87	.83	2.69	2.43	.46	25.69
1959	.32	.68	1.10	3.38	3.08	2.42	2.73	1.82	.61	.28	.31	.11	16.84
1960	.49	1.27	2.77	3.49	2.31	2.80	3.55	2.25	.76	.39	.55	.87	21.50

a Adjusted for change in contents in Tygart Reservoir, Lake Lynn, Deep Creek and Youghiogheny River Reservoirs.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted <u>a/</u>					Observed	Adjusted <u>a/</u>	
		Momentary		maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches		
		Discharge	Date		day									
1950	-	-	-	-	-	-	-	-	-	-	-	16,430	16,420	30.35
1951	1205	129,000	Feb. 2, 1951	1,740	16,770	16,660	2.27	30.82	14,960	15,000	27.74			
1952	1235	118,000	Jan. 28, 1952	1,400	13,010	12,990	1.77	24.10	11,720	11,590	21.51			
1953	1275	68,500	Mar. 8, 1953	975	9,761	9,754	1.33	18.04	9,199	9,157	16.93			
1954	1335	46,100	Mar. 2, 1954	720	6,946	7,065	.963	13.08	10,730	11,000	20.37			
1955	1385	200,000	Oct. 16, 1954	1,370	13,780	13,680	1.86	25.31	10,780	10,520	19.45			
1956	1435	164,000	Aug. 6, 1956	1,400	16,390	16,480	2.25	30.57	18,110	18,230	33.61			
1957	1505	112,000	Feb. 11, 1957	1,150	11,330	11,160	1.52	20.65	10,940	10,900	20.16			
1958	1555	84,900	May 6, 1958	1,330	13,800	13,890	1.89	25.69	12,640	12,520	23.15			
1959	1625	84,900	Jan. 23, 1959	1,460	9,211	9,112	1.24	16.84	10,430	10,500	19.27			
1960	1705	108,000	Mar. 31, 1960	1,660	11,620	11,660	1.59	21.50	-	-	-			

a Adjusted for change in contents in Tygart Reservoir, Lake Lynn, Deep Creek, and Youghiogheny River Reservoirs.

855. Chartiers Creek at Carnegie, Pa.

Location.--Lat 40°24'00", long 80°05'55", on right bank 200 ft upstream from highway bridge at Carnegie, Allegheny County, 0.2 mile downstream from Robinson Run, and 9.0 miles upstream from mouth.

Drainage area.--257 sq mi.

Records available.--October 1919 to September 1933, October 1940 to September 1960.

Monthly discharge only for some periods, published in WSP 1305. June 1915 to September 1919 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania.

Gage.--Water-stage recorder. Datum of gage is 762.03 ft above mean sea level, datum of 1929, supplementary adjustment of 1944 (Pennsylvania RR. bench mark). Prior to Dec. 15, 1931, chain gage at site half a mile downstream at different datum. Jan. 8, 1932, to Sept. 30, 1933, chain gage at site 1 mile downstream at different datum.

Average discharge.--34 years (1919-33, 1940-60), 297 cfs.

Extremes.--1919-33, 1940-60: Maximum discharge, 13,500 cfs Aug. 6, 1956 (gage height, 16.37 ft); minimum observed, 16 cfs Aug. 9, 1926, and at times in September 1932. Flood of Mar. 17, 1936, reached a stage of 11.0 ft, at site 1 mile downstream at different datum (discharge, 9,600 cfs).

Remarks.--Some regulation at low flow by mine drainage, reservoirs, and industrial usage above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	137	409	1,003	836	910	766	717	361	356	272	97.0	78.9	493
1952	66.7	98.8	233	728	610	596	552	482	207	107	99.9	69.7	320
1953	59.4	72.9	104	365	280	332	416	445	148	115	87.3	57.8	207
1954	50.6	52.3	54.3	78.7	94.8	261	339	213	219	72.3	93.1	56.8	132
1955	334	85.4	225	160	586	840	299	155	154	95.5	304	83.1	275
1956	94.2	259	114	180	1,051	1,015	755	609	612	463	838	207	514
1957	122	87.4	291	276	379	368	890	200	137	111	62.9	72.4	248
1958	60.3	90.4	273	274	254	299	292	613	141	280	363	180	261
1959	101	86.0	159	582	586	337	320	301	140	120	81.8	47.1	233
1960	106	147	311	369	360	469	373	306	151	85.6	74.2	81.3	238

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.62	1.77	4.50	3.75	3.69	3.44	3.11	1.62	1.54	1.22	0.44	0.34	26.04
1952	.30	.42	1.05	3.26	2.56	2.67	2.40	2.16	.90	.48	.45	.30	16.95
1953	.27	.32	.46	1.64	1.13	1.49	1.81	1.99	.64	.52	.39	.25	10.91
1954	.23	.23	.24	.35	.38	1.17	1.47	.95	.95	.32	.42	.25	6.96
1955	1.50	.36	1.01	.72	2.38	3.77	1.30	.69	.67	.43	1.36	.36	14.55
1956	.42	1.12	.51	.81	4.33	4.55	3.27	2.73	2.66	2.16	3.78	.90	27.22
1957	.55	.38	1.31	1.24	1.53	1.65	3.86	.90	.59	.50	.28	.31	13.10
1958	.27	.39	1.22	1.23	1.03	1.34	1.27	2.75	.61	1.26	1.63	.78	13.78
1959	.45	.37	.63	2.61	2.29	1.51	1.39	1.35	.61	.54	.37	.20	12.32
1960	.48	.64	1.40	1.74	1.51	2.10	1.62	1.37	.66	.58	.33	.35	12.58

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	420	22.19
1951	1205	7,160	Dec. 4, 1950	60	493	1.92	26.04	396	20.92
1952	1235	6,000	Jan. 27, 1952	50	320	1.25	16.95	306	16.23
1953	1275	3,030	May 7, 1953	40	207	.805	10.91	200	10.56
1954	1335	3,890	June 16, 1954	39	132	.514	6.96	173	9.13
1955	1385	7,520	Oct. 16, 1954	45	275	1.07	14.55	260	13.73
1956	1435	13,500	Aug. 6, 1956	63	514	2.00	27.22	517	27.41
1957	1505	5,630	Apr. 4, 1957	48	248	.965	13.10	242	12.74
1958	1555	3,820	Aug. 4, 1958	45	261	1.02	13.78	253	13.35
1959	1625	6,250	Jan. 22, 1959	39	233	.907	12.32	253	13.39
1960	1705	2,070	Mar. 31, 1960	47	238	.926	12.58	-	-

860. Ohio River at Sewickley, Pa.

Location.--Lat 40°31'50", long 80°11'20", on left bank 200 ft upstream from highway bridge at Sewickley, Allegheny County. 0.5 mile upstream from Narrows Run, 1.5 miles upstream from Dashields Dam, and 11.8 miles downstream from confluence of Allegheny and Monongahela Rivers.

Drainage area.--19,500 sq mi, approximately.

Records available.--October 1933 to September 1960. Monthly discharge only for period May 1938 to September 1940, adjusted for change in reservoir contents, published in WSP 1305.

Gage.--Water-stage recorder and dam 1.5 miles downstream. Datum of gage is 690.00 ft above mean sea level, adjustment of 1912. Prior to Nov. 22, 1933, staff gage at same site and datum.

Average discharge.--27 years (1933-60), 32,780 cfs (adjusted for storage since 1938).

Extremes.--1933-60: Maximum discharge, 574,000 cfs Mar. 18, 1936 (gage height, 34.75 ft, from floodmark in gage house); minimum, 1,800 cfs Sept. 4, 1957 (gage height, 2.60 ft).

Remarks.--Some regulation by locks, and by many reservoirs above station. Combined capacity of reservoirs, excluding that of Chautauqua Lake but including Lake Lynn and Deep Creek Reservoirs and 12 smaller reservoirs, 1,584,000 acre-ft. Records of chemical analyses and water temperatures 5 miles downstream at Ambridge for the periods October 1945 to June 1953 and October 1956 to September 1958 are published in the reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	14,600	52,000	73,850	79,520	82,350	66,720	73,720	32,690	40,140	21,540	5,353	4,801	45,350
1952	3,804	20,550	44,050	108,200	56,170	67,180	55,940	59,500	13,940	6,123	6,210	4,220	37,200
1953	3,793	8,459	23,270	44,190	43,540	57,100	51,720	55,220	29,500	6,832	7,481	4,821	27,900
1954	3,499	3,991	12,390	25,920	30,280	56,880	52,100	27,460	15,780	7,374	14,630	7,286	21,410
1955	51,010	21,380	46,450	45,570	56,690	99,720	36,550	17,110	16,390	7,170	11,630	4,387	34,480
1956	14,770	30,680	22,620	13,680	89,100	93,750	73,740	67,660	37,560	32,400	48,180	25,430	45,600
1957	10,240	12,490	54,930	49,840	40,330	79,800	22,440	12,020	11,010	3,565	3,400		29,790
1958	5,075	7,360	46,470	28,570	29,930	49,190	60,270	59,120	20,150	37,250	33,630	17,300	32,470
1959	10,720	19,990	20,960	62,150	67,520	52,550	53,080	34,330	12,210	7,894	5,844	3,612	29,020
1960	14,610	33,370	57,370	58,160	44,590	31,140	72,920	44,980	24,170	6,360	7,565	9,142	33,800

Monthly and yearly runoff, in inches (adjusted) ^{a/}

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.78	2.95	4.36	4.76	4.39	4.02	4.28	1.95	2.32	1.22	0.23	0.21	31.47
1952	.15	1.16	2.71	6.57	2.90	4.05	3.32	3.54	.79	.30	.32	.16	25.97
1953	.14	.46	1.40	2.74	2.32	3.48	3.02	3.41	1.56	.35	.36	.19	19.45
1954	.12	.16	.73	1.60	1.67	3.47	3.08	1.65	.91	.39	.86	.34	15.01
1955	3.01	1.13	3.02	2.40	3.13	5.90	2.24	1.00	.92	.38	.65	.16	23.94
1956	.81	1.73	1.29	.97	5.03	5.60	4.23	4.07	2.08	1.91	2.82	1.38	31.92
1957	.54	.60	3.32	3.08	3.09	2.43	4.70	1.28	.65	.59	.14	.14	20.56
1958	.29	.39	2.84	1.65	1.32	2.94	3.66	3.42	1.14	2.29	1.87	.92	22.73
1959	.54	1.09	1.20	3.80	3.59	3.17	3.26	1.95	.68	.42	.28	.13	20.11
1960	.65	1.94	3.35	3.44	2.45	2.29	3.68	2.73	1.34	.45	.39	.46	23.57

^a Adjusted for change in contents in Chautauqua Lake, Tionesta Creek Reservoir, in East Branch Clarion River Reservoir since June 1952, in Mahoning Creek and Crooked Creek Reservoirs, in Cone-maugh River Reservoir since October 1951, in Loyalhanna Creek Reservoir, in Beaver Run Reservoir since November 1951, in Tygart Reservoir, Lake Lynn, Deep Creek, and Youghiogheny River Reservoirs, and in 11 smaller reservoirs.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year				
		Observed			Adjusted ^{a/}			Observed		Adjusted ^{a/}		
		Momentary maximum		Minimum	Per square mile		Runoff in inches	Mean		Mean		Runoff in inches
		Discharge	Date	day	Mean	Mean		Mean	Mean	Mean	Mean	
1950	-	-	-	-	-	-	-	-	-	45,300	45,290	31.53
1951	1205	259,000	Dec. 5, 1950	3,660	45,350	45,230	2.32	31.47	39,320	39,380	27.40	
1952	1235	282,000	Jan. 28, 1952	3,030	37,200	37,220	1.91	25.97	34,450	34,320	23.95	
1953	1275	137,000	June 1, 1953	2,640	27,900	27,840	1.43	19.45	26,580	26,550	18.48	
1954	1335	137,000	Mar. 4, 1954	2,780	21,410	21,550	1.11	15.01	29,770	30,350	21.14	
1955	1385	318,000	Oct. 16, 1954	3,100	34,480	34,380	1.76	23.94	30,150	29,630	20.61	
1956	1435	230,000	Mar. 9, 1956	3,760	45,600	45,760	2.35	31.92	46,460	46,650	32.55	
1957	1505	168,000	Feb. 11, 1957	2,100	29,790	29,540	1.51	20.56	28,260	28,210	19.62	
1958	1555	152,000	May 9, 1958	2,590	32,470	32,680	1.68	22.73	31,770	31,650	22.04	
1959	1625	274,000	Jan. 23, 1959	2,780	29,020	28,870	1.48	20.11	33,540	33,720	23.42	
1960	1705	246,000	Apr. 1, 1960	4,230	33,800	33,850	1.74	23.57	-	-	-	

^a Adjusted for change in contents; see footnote to preceding table.

865. Mahoning River at Alliance, Ohio

Location.--Lat 40°55'55", long 81°05'45", in SE $\frac{1}{4}$ sec.24, T.19 N., R.6 W., on right bank 15 ft upstream from Webb Avenue Bridge in Alliance, Stark County, 0.2 mile upstream from waterworks dam, and 4 miles upstream from Beech Creek.

Drainage area.--87.9 sq mi.

Records available.--August 1941 to September 1960.

Gage.--Water-stage recorder and concrete dam. Datum of gage is 1,037.3 ft above mean sea level, adjustment of 1912.

Average discharge.--19 years (1941-60), 85.9 cfs (unadjusted).

Extremes.--1941-60: Maximum discharge, 9,740 cfs Jan. 21, 1959 (gage height, 9.11 ft), from rating curve extended above 3,300 cfs on basis of computation of peak flow over dam; no flow at times.

Remarks.--Water diverted between gage and control prior to December 1954 by city of Alliance for municipal supply. Runoff in inches adjusted for diversion. Flow slightly regulated by Westville Reservoir above station.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12.2	52.9	230	243	308	343	172	72.6	17.7	38.7	2.75	5.04	124
1952	5.95	70.2	195	427	202	178	170	81.2	5.45	8.69	3.49	16.7	114
1953	.22	14.7	31.9	150	62.2	96.4	137	181	43.4	20.9	1.15	.07	61.7
1954	0	.72	4.11	17.8	17.8	187	196	33.5	25.5	0	12.4	2.71	41.5
1955	182	19.4	101	97.9	248	287	188	26.7	36.2	10.6	11.3	4.74	100
1956	16.3	64.9	26.2	32.4	379	256	147	335	123	116	117	27.1	136
1957	17.2	25.0	50.3	99.7	120	86.9	513	65.1	62.9	88.5	6.02	13.3	78.4
1958	12.6	24.1	157	103	72.0	92.2	116	121	64.4	224	1215	74.6	107
1959	19.2	25.1	40.1	580	266	142	123	93.6	114	37.7	39.1	9.98	106
1960	105	114	179	183	131	156	86.6	70.6	74.1	22.4	19.4	7.67	95.7

† Corrected.

Monthly and yearly runoff, in inches (adjusted)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.26	0.77	3.12	3.30	3.74	4.60	2.29	1.06	0.34	0.62	0.15	0.18	20.43
1952	.20	1.01	2.66	5.70	2.57	2.42	2.24	1.16	.17	.21	.14	.31	18.79
1953	.10	.28	.52	2.08	.83	1.36	1.84	2.48	.66	.39	.14	.11	10.79
1954	.11	.11	.15	.33	.30	2.55	2.59	.54	.42	.11	.26	.13	7.60
1955	2.48	.33	1.33	1.28	2.94	3.77	2.39	.35	.46	.14	.15	.06	15.68
1956	.21	.82	.34	.43	4.65	3.36	1.86	4.39	1.56	1.52	1.53	.34	21.01
1957	.23	.32	.66	1.30	1.43	1.14	3.97	.85	.80	1.16	.08	.17	12.11
1958	.16	.31	2.06	1.35	.85	1.21	1.47	1.59	.82	2.94	2.82	.95	16.53
1959	.25	.29	.53	4.98	3.16	1.87	1.56	1.22	1.45	.49	.51	.13	16.44
1960	1.37	1.45	2.35	2.40	1.61	2.04	1.10	.93	.94	.29	.25	.10	14.83

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted			Observed		Adjusted
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	118	125	19.38
1951	1205	3,080	Dec. 3, 1950	0	124	132	1.50	20.43	122	131	20.15
1952	1235	4,730	Jan. 27, 1952	0	114	122	1.39	18.79	94.8	102	15.82
1953	1275	2,660	May 23, 1953	0	61.7	69.8	.794	10.79	58.2	66.4	10.26
1954	1335	1,100	Apr. 17, 1954	0	41.5	49.3	.561	7.60	66.7	73.7	11.37
1955	1385	3,820	Oct. 16, 1954	0	100	101	1.15	15.68	83.7	-	12.91
1956	1435	3,960	Feb. 25, 1956	2.0	136	-	1.55	21.01	135	-	20.85
1957	1505	3,200	Apr. 5, 1957	4.8	78.4	-	.892	12.11	87.0	-	13.43
1958	1555	6,760	Aug. 1, 1958	0	107	-	1.22	16.53	97.6	-	15.07
1959	1625	9,740	Jan. 21, 1959	3.0	106	-	1.21	16.44	133	-	20.54
1960	1705	1,330	Mar. 29, 1960	3.6	95.7	-	1.09	14.83	-	-	-

BEAVER RIVER BASIN

870. Beech Creek near Bolton, Ohio

Location.--Lat 40°55'50", long 81°08'50", on right bank at downstream side of county bridge on line between secs. 21 and 28, T.19 N., R.6 W., 1½ miles upstream from Little Beech Creek, 1¼ miles southwest of Bolton, Stark County, and 2½ miles west of Alliance.

Drainage area.--18.8 sq mi.

Records available.--October 1942 to September 1951. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Altitude of gage is 1,045 ft (from topographic map).

Average discharge.--9 years (1942-51), 18.6 cfs.

Extremes.--1943-51: Maximum discharge, 2,210 cfs June 24, 1950 (gage height, 8.27 ft), from rating table extended above 1,200 cfs by logarithmic plotting; minimum, 0.1 cfs July 16-19, 23-28, 1944, Aug. 29, 1945; minimum gage height, 0.24 ft July 27, 1944.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.15	5.34	45.2	51.2	69.0	70.5	32.0	11.0	3.04	5.71	0.94	1.18	24.5

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.07	0.32	2.77	3.14	3.82	4.32	1.90	0.67	0.18	0.35	0.06	0.07	17.67

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	25.5	18.44	-
1951	1205	648	Mar. 4, 1951	0.3	24.5	1.30	17.67	-	-	-

880. Deer Creek at Limaville, Ohio

Location.--Lat 40°58'45", long 81°09'35", in SW¼ sec.4, T.19 N., R.6 W., on left bank 1,000 ft downstream from highway bridge, 0.6 mile west of Limaville, Stark County, and 2½ miles upstream from flow line of Berlin Reservoir.

Drainage area.--31.9 sq mi.

Records available.--September 1941 to September 1951.

Gage.--Water-stage recorder. Datum of gage is 1,046.8 ft above mean sea level, adjustment of 1912. Prior to Oct. 22, 1941, staff gage at same site and datum.

Average discharge.--10 years (1941-51), 31.8 cfs.

Extremes.--1941-51: Maximum discharge, 1,280 cfs Dec. 3, 1950 (gage height, 8.46 ft); maximum gage height, 10.18 ft Feb. 22, 1945 (ice jam); minimum discharge, 0.7 cfs Aug. 22, 1951 (gage height, 3.51 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.42	17.1	82.1	78.8	104	107	63.0	32.2	8.36	10.9	3.47	9.06	43.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.23	0.60	2.96	2.85	3.40	3.86	2.20	1.16	0.29	0.39	0.13	0.32	18.39

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	49.7	21.17	-
1951	1205	1,280	Dec. 3, 1950	2.5	43.2	1.35	18.39	-	-	-

895. Mill Creek near Berlin Center, Ohio

Location.--Lat 41°00'00", long 80°58'10", in T.1 N., R.5 W., on left bank at downstream side of county bridge, 150 ft upstream from unnamed tributary, 1 mile upstream from flow line of Berlin Reservoir, 1½ miles upstream from Turkeybroth Creek, and 2 miles southwest of Berlin Center, Mahoning County. Records include flow of unnamed tributary.

Drainage area.--19.7 sq mi, including that of unnamed tributary 150 ft below gage.

Records available.--September 1941 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,032.9 ft above mean sea level, adjustment of 1912. Prior to Oct. 22, 1941, staff gage and Oct. 22, 1941, to Apr. 23, 1947, water-stage recorder, at same site and datum. Apr. 24, 1947, to Sept. 10, 1952, water-stage recorder at site 100 ft downstream at same datum.

Average discharge.--19 years (1941-60), 18.5 cfs.

Extremes.--1941-60: Maximum discharge, 1,900 cfs May 27, 1946 (gage height, 6.92 ft); no flow Aug. 26-31, Sept. 3, 4, 1953, July 26-31, Aug. 10-14, 1954, Sept. 21, 22, 1955.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.24	7.77	43.1	42.0	62.6	69.3	29.8	12.2	3.11	5.47	0.51	0.95	23.0
1952	1.08	15.5	54.1	90.1	40.3	40.6	41.1	21.8	1.72	2.03	1.08	2.79	26.1
1953	1.05	3.05	6.16	31.1	11.0	21.5	34.4	38.3	3.59	4.25	.26	.38	13.0
1954	.30	.76	1.27	3.73	4.27	39.4	39.0	5.47	1.90	.16	.93	.60	8.15
1955	55.2	4.22	23.5	20.3	59.6	62.6	38.4	3.58	5.23	1.69	.54	.24	22.7
1956	1.42	11.3	4.03	6.62	94.1	52.9	32.1	72.4	25.3	38.4	24.4	2.80	30.3
1957	1.69	1.80	12.0	25.3	23.5	18.1	65.7	6.61	12.9	18.0	2.03	3.45	15.8
1958	1.49	3.13	34.7	24.4	16.9	17.1	29.3	24.3	7.86	57.7	24.9	9.73	21.1
1959	2.40	6.25	8.34	83.5	65.5	35.2	26.2	21.4	11.1	3.20	2.28	.92	22.0
1960	14.3	21.4	39.3	33.3	25.8	35.1	9.99	22.4	15.7	1.36	.997	.420	18.4

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.07	0.44	2.52	2.46	3.31	4.06	1.68	0.71	0.18	0.32	0.03	0.05	15.83
1952	.06	.88	3.17	5.27	2.21	2.38	2.33	1.28	.10	.12	.06	.16	18.02
1953	.06	.17	.36	1.82	.58	1.26	1.95	2.24	.20	.25	.02	.02	8.93
1954	.02	.04	.07	1.22	.23	2.31	2.21	.32	.11	.009	.05	.03	5.62
1955	3.23	.24	1.37	1.19	3.16	3.67	2.18	.21	.30	.10	.03	.01	15.69
1956	.08	.64	.24	.39	5.16	3.10	1.82	4.24	1.43	2.25	1.43	.16	20.94
1957	.10	.10	.70	1.48	1.24	1.06	3.73	.39	.73	1.05	.12	.20	10.90
1958	.09	.18	2.03	1.43	.89	1.00	1.66	1.42	.45	3.38	1.45	.55	14.53
1959	.14	.35	.49	4.89	3.46	2.06	1.48	1.26	.63	.19	.13	.05	15.13
1960	.84	1.22	2.29	1.95	1.41	2.05	.57	1.31	.89	.08	.06	.02	12.69

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	24.1	16.61
1951	1205	700	Dec. 3, 1950	0.1	23.0	1.17	15.83	24.5	16.91
1952	1235	1,250	Jan. 26 or 27	.3	26.1	1.32	18.02	21.0	14.50
1953	1273	1,540	May 22, 1953	0	13.0	.660	8.93	12.3	8.47
1954	1335	1,399	Apr. 17, 1954	0	8.15	.414	5.62	15.0	10.33
1955	1385	1,680	Oct. 16, 1954	0	22.7	1.15	15.69	17.1	11.81
1956	1435	1,750	May 12, 1956	.2	30.3	1.54	20.94	30.2	20.88
1957	1505	1,120	Apr. 4, 1957	.6	15.8	.802	10.90	17.8	12.30
1958	1555	1,380	July 31, 1958	.7	21.1	1.07	14.53	19.2	13.21
1959	1625	1,700	Jan. 21, 1959	.4	22.0	1.12	15.13	26.9	18.50
1960	1705	685	Mar. 28, 1960	.2	18.4	.934	12.69	-	-

BEAVER RIVER BASIN

900. Berlin Reservoir near Berlin Center, Ohio

Location.--Lat 41°02'45", long 81°00'10", in T.1 N., R.6 W., at dam on Mahoning River, $\frac{3}{4}$ miles northwest of Berlin Center, Mahoning County, Ohio.

Drainage area.--249 sq mi.

Records available.--December 1942 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Extremes.--1942-60: Maximum total contents, 91,150 acre-ft July 8, 1943 (elevation, 1,032.0 ft); minimum (after initial filling), 1,540 acre-ft Jan. 10, 1944 (elevation, 978.82 ft).

Remarks.--Reservoir is formed by earth dam with concrete spillway; storage began in December 1942. Capacity at top of crest gates (elevation, 1,032.0 ft), 91,150 acre-ft. No dead storage. Reservoir used for flood control and to augment flow of Mahoning River during periods of low flow. Water used for industrial purposes in vicinity of Warren and Youngstown.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, on last day of month												
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	12,220	17,730	18,580	36,270	33,060	48,750	55,560	58,130	52,670	48,960	34,960	21,810
1952	11,500	17,390	32,690	54,360	31,020	46,430	56,330	58,560	54,000	47,960	34,440	23,130
1953	11,230	12,400	9,800	30,050	27,470	41,200	60,200	60,800	54,730	44,220	30,370	16,410
1954	10,110	9,600	9,870	12,730	15,930	44,090	56,390	54,670	48,050	37,650	29,840	20,470
1955	30,240	19,110	26,570	24,530	35,170	38,410	61,900	54,070	50,900	40,360	22,770	9,930
1956	10,670	13,700	12,740	11,060	56,330	42,600	55,100	65,350	61,480	47,990	39,360	23,680
1957	13,820	13,000	16,100	28,590	33,550	39,360	52,700	56,220	58,590	48,690	33,900	21,680
1958	11,380	12,780	34,520	33,060	30,200	39,310	56,110	55,500	50,870	62,570	39,870	33,760
1959	20,040	19,520	15,330	39,670	34,590	39,670	53,760	63,500	60,760	48,310	35,070	21,820
1960	26,020	29,010	32,610	29,180	27,490	54,660	45,020	56,330	56,720	43,150	31,970	19,610

905. Mahoning River below Berlin Dam, near Berlin Center, Ohio

Location.--Lat 41°02'55", long 81°00'05", in T.1 N., R.6 W., on left bank 600 ft downstream from Berlin Dam and $\frac{3}{4}$ miles northwest of Berlin Center, Mahoning County.

Drainage area.--249 sq mi.

Records available.--October 1930 to September 1960. Monthly discharge only for October 1930, published in WSP 1305. Prior to October 1942, published as "near Berlin Center."

Gage.--Water-stage recorder and concrete control. Datum of gage is 958.0 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1942, water-stage recorder at site $\frac{1}{4}$ miles upstream at datum 966.15 ft above mean sea level, adjustment of 1912 (levels by Mahoning Valley Sanitary District). Oct. 1, 1942, to May 11, 1949, water-stage recorder 200 ft downstream from present site at datum 8.00 ft lower than present datum.

Average discharge.--30 years (1930-60), 233 cfs.

Extremes.--1930-60: Maximum discharge, 8,630 cfs Jan. 25, 1937 (gage height, 10.97 ft, site and datum then in use); no flow at times during 1948-49.

Remarks.--Flow regulated since 1942 by Berlin Reservoir (see above). Slight regulation since 1954 by Deer Creek Reservoir (capacity, 3,180 acre-ft). Small diversion since 1958 from Berlin Reservoir by Mahoning Valley Sanitary District.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	174	42.0	598	372	933	674	350	148	159	182	237	241	339
1952	194	180	384	814	954	259	309	142	94.4	143	250	249	329
1953	209	31.1	144	118	209	67.5	76.5	480	180	220	241	241	185
1954	115	22.2	19.5	26.8	38.8	142	392	155	176	169	162	172	133
1955	374	223	138	288	494	771	66.1	174	171	195	319	227	286
1956	17.0	103	77.0	98.3	276	973	197	707	406	489	446	312	343
1957	176	45.1	83.8	138	194	122	656	75.3	147	426	262	244	214
1958	181	25.3	165	285	223	82.5	61.7	307	196	508	846	261	258
1959	229	91.7	168	627	975	353	76.0	80.0	219	270	309	240	299
1960	268	284	485	544	390	79.8	330	52.1	173	230	217	203	271

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	345	-
1951	1205	4,360	Dec. 12, 1950	0.5	339	-	-	334	-
1952	1235	3,120	Feb. 7, 1952	40	329	-	-	298	-
1953	1275	2,610	May 25, 1953	19	185	-	-	166	-
1954	1335	2,820	Apr. 29, 1954	8.8	133	-	-	181	-
1955	1385	2,900	Feb. 24, 1955	17	286	-	-	241	-
1956	1435	3,360	May 14, 1956	16	343	-	-	352	-
1957	1505	2,750	Apr. 10, 1957	20	214	-	-	214	-
1958	1555	1,280	May 8, 1958	12	258	-	-	273	-
1959	1625	3,200	Jan. 24, 1959	5.0	299	-	-	345	-
1960	1705	2,640	Apr. 6, 1960	6.7	271	-	-	-	-

910. Milton Reservoir at Pricetown, Ohio

Location.--Lat 41°07'40", long 80°58'35", in T.2 N., R.5 W., at dam on Mahoning River, 0.8 mile southwest of Pricetown, Mahoning County.

Drainage area.--276 sq mi.

Records available.--December 1923 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by city of Youngstown). Prior to Oct. 7, 1941, float gage at same site and datum.

Extremes.--1923-60: Maximum total contents, 35,020 acre-ft June 29, 1924 (elevation, 953.8 ft); minimum, 1,220 acre-ft Jan. 23, 1954 (elevation, 924.27 ft, from graph based on gage readings).

Remarks.--Reservoir is formed by earth dam with concrete spillway; storage began in 1916, elevations available since December 1923. Capacity at spillway level (elevation, 951 ft), 29,150 acre-ft. No dead storage. Reservoir used to augment flow of Mahoning River during periods of low flow. Water used for industrial purposes in vicinity of Warren and Youngstown.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	21,770	17,100	23,310	24,000	29,760	26,370	24,560	23,700	23,790	23,610	23,930	23,650
1952	22,170	22,790	26,840	31,430	21,960	23,830	23,630	23,930	23,750	23,750	23,880	23,680
1953	22,080	16,400	16,730	19,200	20,380	22,130	23,830	28,310	23,660	23,610	23,630	23,440
1954	16,790	9,980	4,580	1,720	2,550	13,700	30,700	23,570	23,700	23,830	23,610	23,720
1955	23,210	18,210	15,410	19,280	29,520	23,700	24,410	23,590	23,790	23,660	23,490	21,010
1956	14,160	15,570	14,530	15,380	24,680	23,790	23,720	24,460	23,400	23,660	23,490	23,560
1957	22,010	16,900	15,260	19,400	23,350	23,500	23,380	23,440	24,410	23,310	23,420	23,500
1958	22,150	16,670	16,310	19,940	23,610	23,350	24,720	23,260	23,220	23,120	23,470	23,260
1959	19,130	14,550	14,450	28,370	25,250	23,440	24,360	23,350	23,660	23,120	23,350	23,810
1960	21,540	16,550	15,810	22,800	23,520	26,540	23,470	24,670	23,440	23,470	23,680	23,540

915. Mahoning River at Pricetown, Ohio

Location.--Lat 41°07'50", long 80°58'24", in T.2 N., R.5 W., on left bank a quarter of a mile south of Mahoning-Trumbull County line, 0.3 mile downstream from Milton Dam, half a mile southwest of Pricetown, Mahoning County, and 3 miles upstream from Kale Creek.

Drainage area.--276 sq mi.

Records available.--July 1929 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 905.00 ft above mean sea level, adjustment of 1912. Prior to Aug. 14, 1929, staff gage at same site and datum.

Average discharge.--31 years (1929-60), 255 cfs.

Extremes.--1929-60: Maximum discharge, 6,770 cfs Jan. 25, 1937 (gage height, 15.01 ft), from rating curve extended above 4,200 cfs on basis of velocity-area studies; minimum, 0.4 cfs Nov. 9, 10, 1941, Feb. 19-21, Oct. 10-21, 1945.

Remarks.--Flow regulated by Berlin Reservoir beginning 1942 and Milton Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	195	142	551	414	918	828	435	167	154	172	224	238	367
1952	205	211	431	883	1,184	275	376	147	95.5	133	225	244	364
1953	221	132	144	115	190	69.0	76.9	478	251	212	220	226	195
1954	210	142	112	78.2	39.1	16.0	180	266	157	154	152	157	139
1955	462	305	207	224	376	959	96.1	184	176	187	297	248	311
1956	134	85.7	86	76.8	217	1,098	247	806	456	536	481	320	381
1957	204	141	132	90.5	153	146	782	90.6	160	454	251	241	237
1958	199	118	164	262	189	103	69.4	354	206	574	904	278	287
1959	312	194	185	504	1,211	439	102	121	266	291	320	241	343
1960	320	396	543	464	429	90.2	391	69.9	202	228	220	200	295

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Runoff in inches
		Discharge	Date					
1950	-	-	-	-	-	-	349	-
1951	1705	2,610	Feb. 24, 1951	61	367	-	363	-
1952	1235	3,220	Feb. 8, 1952	62	364	-	335	-
1953	1275	2,500	May 28, 1953	48	195	-	192	-
1954	1335	2,560	Apr. 30, 1954	12	139	-	182	-
1955	1385	2,500	Feb. 26, 1955	44	311	-	254	-
1956	1435	2,940	May 18, 1956	36	381	-	395	-
1957	1505	2,830	Apr. 11, 1957	47	237	-	237	-
1958	1555	1,240	(a)	68	287	-	305	-
1959	1625	2,320	Feb. 16, 1959	4.9	343	-	391	-
1960	1705	2,540	Apr. 7, 1960	33	295	-	-	-

a Aug. 7, 9-12, 16-18, 1958.

920. Kale Creek near Pricetown, Ohio

Location.--Lat 41°08'25", long 80°59'45", in T.3 N., R.5 W., on right bank at downstream side of highway bridge, 0.4 mile north of Mahoning-Trumbull County line, 1½ miles northwest of Pricetown, 2¼ miles upstream from mouth, and 3½ miles south of Newton Falls, Trumbull County.

Drainage area.--20.9 sq mi.

Records available.--October 1940 to September 1960. Prior to June 1941 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 914.7 ft above mean sea level, adjustment of 1912. Prior to June 27, 1941, staff gage at same site and datum.

Average discharge.--20 years (1940-60), 22.3 cfs.

Extremes.--1940-60: Maximum discharge, 3,890 cfs Jan. 21, 1959 (gage height, 8.52 ft); no flow at times in 1952-55.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.37	8.26	53.1	56.3	78.5	87.2	41.4	15.8	0.48	1.13	0.22	1.00	28.4
1952	.65	29.2	68.3	117	45.2	49.3	47.8	13.9	1.56	1.27	.50	2.19	31.4
1953	.57	1.66	4.13	38.3	11.8	25.7	26.6	40.5	1.73	1.53	.86	.20	12.9
1954	.17	.31	1.02	7.87	9.18	62.4	71.4	11.4	.61	.16	.46	.47	13.8
1955	47.8	5.00	28.0	22.2	68.4	76.5	49.2	3.76	11.3	.93	.19	.10	25.9
1956	.76	25.2	4.08	4.15	108	72.8	45.3	64.6	46.1	38.0	18.9	12.8	36.4
1957	1.08	1.12	12.6	39.3	22.3	14.8	79.0	13.3	27.1	25.0	12.6	1.24	19.7
1958	1.17	3.69	58.3	24.6	15.5	17.6	35.5	25.4	3.54	69.6	24.6	8.56	24.2
1959	1.65	13.0	8.99	99.1	86.7	50.5	29.7	9.95	33.9	9.47	7.96	2.73	29.1
1960	42.1	37.8	58.3	44.3	51.3	63.3	11.8	27.6	13.0	1.03	1.08	.31	27.8

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.02	0.44	2.93	3.10	3.92	4.81	2.21	0.87	0.03	0.06	0.01	0.05	18.45
1952	.04	1.56	3.77	6.46	2.33	2.72	2.56	.77	.08	.07	.03	.12	20.51
1953	.03	.09	.23	2.11	.59	1.42	1.42	2.24	.09	.08	.05	.01	8.36
1954	.009	.02	.06	.43	.46	3.45	3.82	.63	.03	.009	.03	.02	8.97
1955	2.64	.27	1.54	1.22	3.41	4.22	2.62	.21	.60	.05	†.01	.005	16.80
1956	.04	1.35	.22	.23	5.58	4.01	2.42	3.56	2.47	2.10	1.04	.68	23.70
1957	.06	.06	.70	2.17	1.11	.82	4.22	.73	1.45	1.38	.70	.07	13.47
1958	.06	.20	3.22	1.36	.77	.97	1.90	1.41	.19	3.84	1.36	.46	15.74
1959	.09	.69	.50	5.46	4.32	2.79	1.58	.55	1.81	.52	.44	.15	18.90
1960	2.32	2.02	3.22	2.44	1.62	3.49	.63	1.52	.69	.06	.06	.02	18.09

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	31.5	20.48
1951	1205	626	Jan. 4, 1951	0.1	28.4	1.36	18.45	31.4	20.43
1952	1235	1,520	Jan. 27, 1952	0	31.4	1.50	20.51	23.7	14.91
1953	1275	760	May 23, 1953	.1	12.9	.617	8.36	12.5	8.10
1954	1335	760	Apr. 27, 1954	0	13.8	.660	8.97	20.5	13.33
1955	1385	1,990	Oct. 16, 1954	0	25.9	1.24	16.80	21.5	13.96
1956	1435	1,790	July 17, 1956	.1	36.4	1.74	23.70	35.1	22.91
1957	1505	1,440	July 9, 1957	.3	19.7	.943	13.47	23.8	16.13
1958	1555	1,780	July 31, 1958	.5	24.2	1.16	15.74	20.8	13.54
1959	1625	3,890	Jan. 21, 1959	.2	29.1	1.39	18.90	38.8	25.18
1960	1705	1,430	Mar. 30, 1960	.1	27.8	1.33	18.09	-	-

925. West Branch Mahoning River near Newton Falls, Ohio

Location.--Lat 41°10'18", long 81°01'18", in T.3 N., R.6 W., on right bank 250 ft downstream from bridge on Ravenna Road, 2½ miles southwest of Newton Falls, Trumbull County, 6 miles upstream from mouth, and 7 miles downstream from Silver Creek, and in Portage County.

Drainage area.--97.8 sq mi.

Records available.--June 1926 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 912.2 ft above mean sea level (Corps of Engineers bench mark). Prior to Aug. 30, 1929, staff gage at site 75 ft upstream at same datum.

Average discharge.--34 years (1926-60), 99.5 cfs.

Extremes.--1926-60: Maximum discharge, 8,340 cfs Jan. 22, 1959 (gage height, 13.60 ft); minimum, 2.9 cfs Dec. 6, 1949 (flow retarded by ice above station); minimum gage height, 0.95 ft July 22, 23, 1936.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13.6	40.8	222	208	295	398	185	108	17.6	17.7	8.25	15.7	127
1952	13.5	145	314	547	225	244	189	80.1	18.7	27.3	11.5	12.1	153
1953	11.5	22.4	30.0	151	61.6	106	131	167	19.6	11.2	6.52	6.13	60.5
1954	8.05	9.91	14.5	31.7	47.7	228	262	97.0	31.4	8.33	12.8	10.4	63.5
1955	173	31.2	124	111	250	366	195	37.2	61.3	29.1	12.0	8.75	116
1956	21.1	164	41.9	29.2	363	313	217	310	154	108	111	76.2	159
1957	20.0	21.8	79.9	155	119	103	363	77.4	183	85.3	12.9	19.6	103
1958	16.9	28.2	226	104	97.9	99.7	137	128	33.9	154	129	40.6	100
1959	15.9	91.4	50.7	401	365	242	170	80.6	167	49.6	55.2	24.8	141
1960	170	168	239	197	159	229	96.6	134	46.9	17.5	24.0	8.89	124

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.16	0.47	2.62	2.46	3.14	4.69	2.11	1.27	0.20	0.21	0.10	0.18	17.61
1952	.16	1.65	3.70	6.44	2.48	2.87	2.15	.94	.21	.32	.14	.14	21.20
1953	.14	.26	.35	1.78	.66	1.24	1.50	1.97	.22	.13	.08	.07	8.40
1954	.09	.11	.17	.37	.51	2.69	2.99	1.14	.36	.10	.15	.12	8.80
1955	2.04	.36	1.46	1.30	2.67	4.31	2.22	.44	.70	.34	.14	.10	16.08
1956	.25	1.87	.49	.34	4.23	3.69	2.48	3.66	1.75	1.27	1.30	.87	22.20
1957	.24	.25	.94	1.80	1.27	1.21	4.37	.91	1.86	1.01	.15	.22	14.23
1958	.20	.32	2.66	1.22	1.04	1.18	1.56	1.51	.39	1.81	1.52	.46	13.87
1959	.19	1.04	.60	4.73	3.88	2.85	1.94	.95	1.91	.58	.65	.28	19.60
1960	2.01	1.92	2.81	2.32	1.76	2.70	1.10	1.58	.54	.21	.28	.10	17.33

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	143	19.90
1951	1205	3,100	Dec. 4, 1950	6.7	127	1.30	17.61	143	19.87
1952	1235	4,850	Jan. 27, 1952	8.9	153	1.56	21.20	118	16.44
1953	1275	1,740	May 23, 1953	4.3	60.5	.619	8.40	57.9	8.02
1954	1335	1,560	Apr. 28, 1954	6.1	63.5	.649	8.80	88.6	12.29
1955	1385	3,180	Oct. 16, 1954	5.6	116	1.19	16.08	107	14.83
1956	1435	3,480	May 12, 1956	9.5	159	1.63	22.20	151	21.02
1957	1505	3,500	June 29, 1957	5.6	103	1.05	14.23	115	15.98
1958	1555	1,820	Aug. 1, 1958	12	100	1.02	13.87	90.3	12.52
1959	1625	8,340	Jan. 22, 1959	10	141	1.44	19.60	177	24.51
1960	1705	2,960	Mar. 30, 1960	7.2	124	1.27	17.33	-	-

BEAVER RIVER BASIN

930. Eagle Creek at Phalanx Station, Ohio

Location--Lat 41°15'40", long 80°57'16", on right bank 75 ft downstream from highway bridge, 1 mile north of Phalanx Station, Trumbull County, 2 miles downstream from Tinker Creek, and 4 miles upstream from mouth.

Drainage area--97.0 sq mi.

Records available--June 1926 to September 1934, October 1937 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage--Water-stage recorder. Datum of gage is 887.42 above mean sea level, adjustment of 1912 (levels by Mahoning Valley Sanitary District). Prior to Sept. 14, 1929, staff gage at same site and datum.

Average discharge--31 years (1926-34, 1937-60), 106 cfs.

Extremes--1926-34, 1937-60: Maximum discharge, 6,700 cfs Jan. 22, 1959 (gage height, 13.12 ft); minimum, 0.6 cfs Aug. 4, 1939 (gage height, 1.62 ft); minimum daily, 0.9 cfs Aug. 4, 1939.

Remarks--Low flow slightly regulated by mill several miles above station.

Revisions--Some periods for the water years 1928-29 were revised in WSP 1555, the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches	Momentary maximum	
				Discharge	Date
Water year 1927-28....	-	-	-	4,000	Dec. 1, 1927
February 1929.....	203	2.09	2.18	-	-
Water year 1928-29....	146	1.51	20.47	5,950	Feb. 27, 1929
Calendar year 1929....	150	1.55	20.94	-	-

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	21.6	67.4	257	220	320	408	194	101	28.3	30.0	11.2	14.7	139
1952	18.0	129	279	547	241	248	172	83.4	24.4	17.8	12.2	11.7	149
1953	13.5	23.8	29.1	115	64.6	91.6	97.7	79.6	23.1	15.6	9.60	7.78	47.5
1954	8.84	12.3	20.7	51.4	71.2	267	249	85.2	26.9	10.5	13.4	11.2	68.9
1955	188	38.5	117	121	275	365	197	40.4	49.0	44.6	13.8	10.9	121
1956	29.7	119	49.8	28.2	366	302	256	282	208	140	172	53.9	168
1957	29.4	32.7	84.0	171	137	121	550	92.6	142	41.6	14.1	15.0	118
1958	20.7	32.9	212	95.2	104	123	134	123	37.0	232	108	59.5	107
1959	25.1	110	65.5	490	431	264	213	98.9	76.6	37.0	21.4	17.7	152
1960	83.0	133	229	207	166	242	124	151	55.6	28.3	66.7	16.1	125

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.26	0.78	3.06	2.62	3.44	4.85	2.23	1.20	0.33	0.36	0.13	0.17	19.43
1952	.21	1.48	3.32	6.50	2.68	2.95	1.98	.99	.28	.21	.15	.14	20.89
1953	.16	.27	.35	1.37	.69	1.09	1.13	.93	.27	.19	.11	.09	6.65
1954	.10	.14	.25	.61	.76	3.17	2.87	1.01	.31	.12	.16	.13	9.63
1955	2.24	.44	1.40	1.44	2.96	4.34	2.26	.48	.56	.53	.16	.12	16.93
1956	.35	1.37	.59	.34	4.29	3.58	2.94	3.56	2.39	1.66	2.04	.62	23.53
1957	.35	.38	1.00	2.03	1.47	1.44	6.33	1.10	1.63	.50	.17	.17	16.57
1958	.25	.58	2.52	1.13	1.11	1.46	1.54	1.46	.43	2.76	1.28	.68	15.00
1959	.30	1.26	.78	5.82	4.62	3.14	2.46	1.18	.88	.44	.25	.20	21.33
1960	.99	1.53	2.72	2.46	1.84	2.87	1.43	1.80	.64	.34	.79	.19	17.60

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	156	21.81
1951	1205	3,040	Dec. 4, 1950	7.4	139	1.43	19.43	145	20.34
1952	1235	3,130	Jan. 27, 1952	7.5	149	1.54	20.89	119	16.66
1953	1275	650	Jan. 19, 1953	5.2	47.5	.490	6.65	45.4	6.36
1954	1335	1,810	Mar. 26, 1954	5.2	68.9	.710	9.63	94.4	13.22
1955	1385	2,840	Oct. 16, 1954	7.5	121	1.25	16.93	108	15.16
1956	1435	2,460	May 13, 1956	10	168	1.73	23.53	164	22.95
1957	1505	3,520	Apr. 24, 1957	10	118	1.22	16.57	129	17.99
1958	1555	2,320	July 16, 1958	12	107	1.10	15.00	102	14.19
1959	1625	6,700	Jan. 22, 1959	11	152	1.57	21.33	173	24.23
1960	1705	3,560	Mar. 30, 1960	13	125	1.29	17.60	-	-

940. Mahoning River at Leavittsburg, Ohio

Location.--Lat 41°14'20", long 80°52'50", in T.4 N., R.4 W., on right bank at upstream side of highway bridge at Leavittsburg, Trumbull County, 300 ft downstream from Duck Creek and 1½ miles downstream from Eagle Creek.

Drainage area.--580 sq mi.

Records available.--October 1940 to September 1960. Prior to June 1941 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 871.25 ft above mean sea level, adjustment of 1912. Prior to July 2, 1941, chain gage and July 2, 1941, to July 22, 1952, water-stage recorder, at site 50 ft downstream at same datum.

Average discharge.--20 years (1940-60), 579 cfs.

Extremes.--1940-60: Maximum discharge, 20,300 cfs Jan. 22, 1959 (gage height, 19.37 ft); minimum, 55 cfs July 7, 1952; minimum gage height, 1.50 ft June 10, July 9, 1941. Maximum stage known, about 24 ft Mar. 26, 1913. Flood of Jan. 25 or 26, 1937, reached a stage of 17.8 ft.

Remarks.--Flow regulated by Berlin Reservoir beginning 1942 and Milton Reservoir (see p. 114,115). Records of chemical analyses for the period October 1951 to September 1953 and water temperatures for the period October 1948 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	239	263	1,270	1,103	1,918	2,071	1,057	456	198	231	246	285	772
1952	234	510	1,145	2,595	1,949	1,038	955	351	147	167	247	273	798
1953	259	187	220	471	384	376	405	822	310	254	262	254	351
1954	231	172	159	203	208	737	943	540	231	175	186	186	331
1955	946	411	522	601	1,139	2,132	745	315	362	286	348	278	672
1956	220	501	214	168	1,305	1,985	955	1,711	1,089	921	942	493	874
1957	259	204	357	608	531	521	2,219	552	562	647	279	278	566
1958	256	214	768	617	481	490	470	762	314	1,103	1,190	421	594
1959	365	462	370	1,820	2,313	1,194	659	370	552	452	451	315	767
1960	703	873	1,288	1,094	942	758	733	489	381	295	316	232	675

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	799	-
1951	1205	6,990	Dec. 4, 1950	168	772	-	-	781	-
1952	1235	9,720	Jan. 27, 1952	60	798	-	-	696	-
1953	1275	2,760	May 23, 1953	152	351	-	-	342	-
1954	1335	4,600	Apr. 28, 1954	116	331	-	-	443	-
1955	1385	7,820	Oct. 16, 1954	209	672	-	-	592	-
1956	1435	8,620	May 13, 1956	125	874	-	-	865	-
1957	1505	7,820	Apr. 5, 1957	145	566	-	-	601	-
1958	1555	5,240	July 16, 1958	156	594	-	-	590	-
1959	1625	20,300	Jan. 22, 1959	172	767	-	-	908	-
1960	1705	7,170	Mar. 30, 1960	159	675	-	-	-	-

950. Mosquito Creek Reservoir near Cortland, Ohio

Location.--Lat 41°18'00", long 80°45'25", in T.4 N., R.3 W., at dam on Mosquito Creek, 3 miles southwest of Cortland, Trumbull County.

Drainage area.--97.4 sq mi.

Records available.--October 1943 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Extremes.--1943-60: Maximum total contents, 101,100 acre-ft June 3, 1947 (elevation, 903.65 ft); minimum, 10,590 acre-ft Nov. 16, 1944 (elevation, 886.97 ft).

Remarks.--Reservoir is formed by earth dam with an emergency spillway (elevation, 903.5 ft) discharging into Grand River basin; flow controlled by gates in concrete conduits through dam. Storage began in October 1943. Capacity at spillway level (elevation, 904.00 ft), 104,100 acre-ft. Reservoir is used for flood control and to augment flow of Mahoning River during periods of low flow. Water used for industrial purposes in vicinity of Warren and Youngstown.

Cooperation.--Records furnished by Corps of Engineers.

Contents in acre-feet, on last day of month												
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	33,900	40,230	58,180	68,830	73,470	81,120	83,310	82,450	71,420	56,890	42,030	38,220
1952	37,460	46,000	65,610	84,420	67,140	72,440	79,880	83,390	80,730	74,720	60,470	49,760
1953	43,930	43,820	47,020	58,630	62,470	70,890	75,770	81,900	70,120	49,820	34,330	26,720
1954	23,990	23,720	24,770	29,350	35,340	57,600	74,900	76,370	72,950	56,130	42,460	37,010
1955	49,430	52,400	63,820	69,780	74,060	72,660	82,250	77,430	67,490	44,450	30,040	25,860
1956	27,340	33,900	57,970	38,320	60,270	81,740	85,620	83,870	84,100	87,480	80,960	60,600
1957	48,930	46,450	51,010	60,140	67,980	73,460	87,150	82,600	75,840	65,120	49,280	42,510
1958	41,020	40,600	49,700	54,060	60,340	67,840	73,320	75,840	67,980	79,260	73,170	60,010
1959	48,640	49,990	53,070	73,760	72,660	73,910	87,470	81,040	74,950	66,090	54,870	48,170
1960	50,710	56,070	64,030	69,540	71,420	85,780	82,520	83,470	80,260	71,920	64,160	57,410

955. Mosquito Creek below Mosquito Creek Dam, near Cortland, Ohio

Location.--Lat 41°18'00", long 80°45'25", in T.5 N., R.3 W., on right bank 100 ft downstream from Mosquito Creek Dam, three-quarters of a mile upstream from Confusion Run, 2 miles downstream from Walnut Creek, and 3 miles southwest of Cortland, Trumbull County.

Drainage area.--97.4 sq mi (revised).

Records available.--May 1926 to September 1929 (published as Mosquito Creek near Cortland), May 1943 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 873.98 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to June 12, 1943, staff gage, June 12 to Aug. 22, 1943, wire-weight gage, and Aug. 23, 1943, to Feb. 14, 1951, water-stage recorder, at site 900 ft downstream at datum 6.63 ft lower.

Average discharge.--20 years (1926-29, 1943-60), 102 cfs (unadjusted).

Extremes.--1926-29, 1943-60: Maximum discharge, 1,890 cfs Jan. 19, 1929 (gage height, 11.5 ft, from floodmark, site and datum then in use); no flow at times.

Remarks.--Flow completely regulated by Mosquito Creek Reservoir beginning 1943. Water is diverted at reservoir outlet for municipal supply of city of Warren beginning in May 1954; diversion figures given in second table below are not included in figures of daily discharges.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	64.0	7.37	4.65	103	248	310	153	48.7	202	274	224	62.5	141
1952	10.8	3.23	3.23	213	561	107	27.5	9.19	9.23	72.0	218	173	116
1953	77.5	45.5	4.92	4.67	4.70	3.37	3.37	7.36	204	303	258	124	87.2
1954	35.1	5.81	3.35	3.25	11.2	3.26	4.13	5.18	115	227	194	72.2	56.9
1955	25.6	4.69	4.36	9.84	187	323	5.12	70.2	159	339	238	43.6	116
1956	3.70	3.50	3.65	3.80	4.26	4.24	187	241	138	162	376	345	123
1957	167	26.6	4.99	5.31	5.40	5.71	211	83.5	181	123	197	90.4	92.1
1958	9.36	4.76	4.40	5.06	5.69	5.80	7.38	11.0	119	58.2	117	246	49.3
1959	169	44.8	4.70	59.5	358	219	13.6	128	128	152	157	108	127
1960	22.1	38.2	85.9	104	127	21.5	137	149	46.8	114	116	62.7	85.2

Monthly and annual diversions, in cubic feet per second, of Mosquito Creek
below Mosquito Creek Dam, near Cortland, Ohio

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	0	0	0	0	0	0	0	3.95	14.9	15.9	15.2	14.3	5.38
1955	13.5	13.0	13.0	12.9	13.8	14.3	14.6	15.3	16.4	16.6	17.7	16.1	14.8
1956	14.8	14.3	14.4	14.4	14.3	13.9	13.4	14.3	15.6	13.4	15.7	15.8	14.5
1957	15.9	15.3	14.6	15.0	14.8	13.0	13.1	13.4	14.4	14.5	15.8	14.7	14.6
1958	14.3	13.1	12.4	12.3	12.2	11.4	10.9	11.1	11.6	12.1	12.3	11.7	12.1
1959	11.2	11.1	11.6	11.8	12.1	11.8	11.9	12.9	13.8	13.5	14.1	13.0	12.4
1960	11.2	11.6	11.9	11.9	12.2	12.5	12.2	12.3	13.2	13.0	14.2	13.7	12.5

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	129	-
1951	1205	665	Mar. 12, 13	3.2	141	-	-	136	-
1952	1235	1,030	Feb. 7-10, 1952	2.2	116	-	-	125	-
1953	1275	437	July 29, 1953	1.8	87.2	-	-	80.0	-
1954	1335	334	July 14, 15	.3	56.9	-	-	56.3	-
1955	1385	837	Mar. 7, 1955	3.7	118	-	-	116	-
1956	1435	633	May 17-20, 1956	3.5	123	-	-	139	-
1957	1505	608	Apr. 11, 12	4.6	92.1	-	-	76.9	-
1958	1555	295	Aug. 29, 30	3.5	49.3	-	-	66.2	-
1959	1625	832	Feb. 16, 1959	4.7	127	-	-	121	-
1960	1705	470	May 16-19, 1960	4.0	85.2	-	-	-	-

960. Mosquito Creek at Niles, Ohio

Location.--Lat 41°11'02", long 80°45'39", on right bank at dam in Niles, Trumbull County, half a mile upstream from mouth.

Drainage area.--139 sq mi.

Records available.--June 1929 to September 1951.

Gage.--Water-stage recorder and concrete dam. Datum of gage is 857.26 ft above mean sea level, adjustment of 1912 (levels by Mahoning Valley Sanitary District). Prior to July 5, 1929, staff gage at same site and datum.

Average discharge.--22 years (1929-51), 119 cfs (unadjusted).

Extremes.--1929-51: Maximum discharge, 3,080 cfs Dec. 30, 1942 (gage height, 5.16 ft); no flow for several days in 1933-34, 1936.

Remarks.--Flow regulated by Mosquito Creek Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	67.1	28.4	121	196	362	470	218	67.3	187	271	216	75.6	189

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	186	-
1951	1205	1,180	Dec. 4, 1950	6.0	189	-	-	-	-

BEAVER RIVER BASIN

970. Meander Creek Reservoir at Mineral Ridge, Ohio

Location.--Lat 41°09'10", long 80°46'50", in T.3 N., R.3 W., at dam on Meander Creek, 0.8 mile northwest of Mineral Ridge, Trumbull County.

Drainage area.--84.9 sq mi.

Records available.--November 1929 to September 1960. Month-end contents for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Mahoning Valley Sanitary District).

Extremes.--1929-60: Maximum total contents, 41,800 acre-ft Jan. 21, 1959 (elevation, 909.25 ft); minimum, 9,370 acre-ft Feb. 28, 1954 (elevation, 888.78 ft).

Remarks.--Reservoir is formed by earth dam with concrete spillway; storage began in 1929. Capacity at spillway level (elevation, 905 ft), 32,410 acre-ft. No dead storage. Water used for municipal supply of Niles and Youngstown.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	21,130	21,550	31,690	32,470	32,850	33,910	33,260	31,480	28,750	26,080	22,270	19,410
1952	16,450	16,970	26,790	32,870	32,370	32,450	32,430	32,170	29,670	27,550	24,190	21,680
1953	18,580	16,380	14,870	19,560	19,350	23,500	28,280	32,490	29,780	26,530	22,740	19,560
1954	16,420	13,820	11,620	10,260	9,500	20,680	31,400	30,140	27,660	24,450	22,080	19,780
1955	33,480	32,120	35,820	34,050	35,710	34,880	34,800	32,350	30,470	27,850	24,720	21,460
1956	19,300	20,290	18,470	18,690	34,390	35,550	35,400	35,440	35,190	35,150	33,740	32,710
1957	30,060	27,570	28,340	33,100	35,950	31,770	35,120	33,970	34,500	32,310	28,900	26,500
1958	23,950	22,070	26,770	29,240	30,820	32,530	35,890	33,660	32,980	37,970	33,790	33,220
1959	30,800	30,900	31,110	33,930	33,500	32,850	34,430	34,370	35,140	33,360	30,960	28,390
1960	29,730	32,630	35,610	35,420	34,840	36,370	33,720	36,300	33,480	30,380	27,730	24,260

975. Meander Creek at Mineral Ridge, Ohio

Location.--Lat 41°09'26", long 80°46'31", in T.3 N., R.3 W., on right bank three-eighths of a mile upstream from highway bridge, three-quarters of a mile downstream from Mineral Ridge Dam, and 1 mile northwest of Mineral Ridge, Trumbull County.

Drainage area.--84.9 sq mi.

Records available.--August 1929 to September 1951.

Gage.--Water-stage recorder and concrete control. Datum of gage is 854.81 ft above mean sea level, adjustment of 1912 (levels by Mahoning Valley Sanitary District).

Average discharge.--22 years (1929-51), 44.1 cfs (unadjusted).

Extremes.--1929-51: Maximum discharge, 5,500 cfs May 28, 1946 (gage height, 12.1 ft), from rating curve extended above 3,500 cfs by computation of flow over dam; no flow Aug. 18-20, 1934 (affected by ponding of water above new concrete control).

Remarks.--Figures of discharge do not include water diverted above station from Meander Creek Reservoir for municipal supply of McDonald, Niles, and Youngstown. Record of diversion is given in second table below. Flow regulated by Meander Creek Reservoir.

Cooperation.--Records of diversion furnished by Mahoning Valley Sanitary District.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.52	1.19	15.3	141	262	264	113	23.1	1.71	1.36	1.58	1.88	67.7

Monthly and annual diversions, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	45.7	43.1	44.6	46.9	47.0	45.8	45.5	47.1	51.1	52.3	55.8	49.1	47.9

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	43.8	-
1951	1205	1,350	Feb. 21, 1951	0.8	67.7	-	-	-	-

980. Mahoning River at Youngstown, Ohio

Location--Lat 41°06'41", long 80°40'25", on left bank 400 ft upstream from Bridge Street Bridge in Youngstown, Mahoning County, and three-quarters of a mile upstream from Mill Creek.

Drainage area--899 sq mi.

Records available--October 1921 to September 1960. Monthly discharge only for October 1921, published in WSP 1305. May 1903 to July 1906 at site $4\frac{1}{2}$ miles downstream; records not equivalent.

Gage--Water-stage recorder. Datum of gage is 826.53 ft above mean sea level, adjustment of 1912 (levels by Mahoning Valley Sanitary District). Prior to Nov. 16, 1926, chain gage at site 400 ft downstream at same datum.

Average discharge--39 years (1921-60), 854 cfs.

Extremes--1921-60: Maximum discharge, 17,600 cfs Jan. 25, 1937 (gage height, 14.92 ft), from rating curve extended above 9,500 cfs by logarithmic plotting and on basis of velocity-area studies; maximum gage height, 18.62 ft Jan. 22, 1959 (backwater from Mill Creek); minimum discharge, 28 cfs Aug. 14, 1930 (gage height, 1.80 ft); minimum daily, 30 cfs Aug. 16, 1930.
Maximum stage known, 26.5 ft Mar. 26, 1913 (discharge, 42,500 cfs, estimated by Corps of Engineers).

Remarks--Water diverted above station for municipal supply for city of Youngstown. Some sewage returned to river above station. Water also diverted above and below station, by a private company for industrial uses, some of which is returned to river above station. Flow regulated by Berlin, Milton, Mosquito Creek, and Meander Creek Reservoirs, together with reservoir on Squaw Creek. Records of chemical analyses for the period October 1951 to September 1953 and water temperatures for the period October 1952 to September 1953 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	351	374	1,682	1,694	3,001	3,385	1,698	650	424	531	465	386	1,211
1952	294	684	1,470	4,010	3,201	1,633	1,439	470	197	276	497	488	1,213
1953	369	285	292	694	505	661	601	1,117	582	585	543	403	554
1954	299	204	211	270	309	1,157	1,435	699	379	424	420	307	515
1955	1,316	473	672	885	1,749	3,279	1,211	463	561	663	635	369	1,021
1956	284	748	303	223	2,111	2,870	1,747	2,596	1,661	1,509	1,771	980	1,398
1957	504	296	472	857	745	717	3,506	635	889	977	525	434	875
1958	314	262	1,010	716	596	693	686	1,111	515	1,750	1,630	807	946
1959	583	632	472	2,632	3,724	1,923	1,029	636	755	651	664	469	1,185
1960	920	1,210	1,850	1,656	1,473	1,342	1,144	848	678	518	538	373	1,046

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,208	-
1951	1205	8,120	Feb. 22, 1951	221	1,211	-	-	1,214	-
1952	1235	13,400	Jan. 27, 1952	112	1,216	-	-	1,090	-
1953	1275	5,080	May 23, 1953	196	554	-	-	535	-
1954	1335	5,930	Apr. 27, 1954	152	515	-	-	663	-
1955	1395	8,400	Oct. 17, 1954	298	1,021	-	-	925	-
1956	1435	11,800	May 14, 1956	170	1,398	-	-	1,394	-
1957	1505	10,800	Apr. 5, 1957	227	875	-	-	902	-
1958	1555	7,190	July 16, 1958	218	846	-	-	853	-
1959	1625	16,900	Jan. 22, 1959	250	1,165	-	-	1,358	-
1960	1705	10,900	Mar. 30, 1960	245	1,046	-	-	-	-

BEAVER RIVER BASIN

985. Mill Creek at Youngstown, Ohio

Location.--Lat 41°04'20", long 80°41'25", in T.2 N., R.2 W., on right bank 600 ft upstream from suspension bridge in Mill Creek Park at Youngstown, Mahoning County, 1 mile downstream from Newport Dam, and $2\frac{1}{2}$ miles upstream from mouth.

Drainage area.--68.4 sq mi.

Records available.--October 1943 to September 1960. Prior to December 1943 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 898.52 ft above mean sea level, datum of 1929.

Average discharge.--17 years (1943-60), 63.2 cfs.

Extremes.--1943-60: Maximum discharge, 6,100 cfs May 27, 1946 (gage height, 9.00 ft), from rating curve extended above 3,800 cfs by computation of peak flow over dam; minimum, 0.1 cfs Oct. 8, 1947, Aug. 26, 1949, Sept. 10-12, 1952, Feb. 3-9, 1954. Maximum discharge known, 7,140 cfs in March 1913 at dam 1 mile downstream (computed by Mill Creek Park Association).

Remarks.--Flow regulated intermittently by Newport Dam.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.11	27.3	161	160	220	230	127	38.6	9.97	11.8	1.62	3.01	82.3
1952	3.86	24.9	97.2	299	150	139	142	67.7	9.11	7.86	5.92	8.46	79.5
1953	4.14	11.9	21.7	82.0	41.9	92.4	124	198	26.1	10.8	2.62	3.21	51.7
1954	8.45	4.03	4.35	9.81	8.43	96.9	143	45.6	25.5	1.52	6.99	5.08	30.0
1955	187	20.6	80.9	70.0	170	201	130	14.2	13.4	18.6	11.2	2.08	76.2
1956	9.62	33.5	13.4	13.6	303	193	165	254	142	114	103	33.1	114
1957	9.52	9.95	53.1	78.5	86.0	71.6	262	51.7	56.5	57.8	2.73	9.85	62.0
1958	9.67	16.0	106	47.9	55.8	69.7	98.0	93.3	40.2	220	143	40.9	78.9
1959	24.6	19.2	37.1	243	207	112	92.6	48.2	46.0	24.3	20.0	8.20	72.7
1960	40.1	55.4	134	116	103	142	50.1	75.9	30.2	9.50	13.4	6.11	64.7

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.09	0.45	2.71	2.70	3.35	3.87	2.08	0.65	0.16	0.19	0.03	0.05	16.33
1952	.06	.41	1.64	5.04	2.36	2.34	2.32	1.14	0.15	.13	.10	.14	15.83
1953	.07	.19	.37	1.58	.64	1.56	2.02	3.33	.43	.18	.04	.05	10.26
1954	.14	.07	.07	.16	.13	1.64	2.33	.77	.42	.03	.12	.08	5.96
1955	3.15	.34	1.36	1.18	2.59	3.39	2.12	.24	.22	.31	.19	.03	15.12
1956	.16	.55	.23	.23	4.78	3.25	2.69	4.28	2.32	1.92	1.74	.54	22.69
1957	.16	.16	.89	1.33	1.31	1.21	4.27	.87	.92	.97	.05	.16	12.30
1958	.16	.26	1.79	.81	.85	1.18	1.60	1.57	.66	3.71	2.41	.67	15.67
1959	.42	.31	.62	4.09	3.18	1.89	1.51	.81	.75	.41	.34	.13	14.44
1960	.68	.90	2.26	1.96	1.63	2.40	.82	1.28	.49	.16	.23	.10	12.91

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	75.6	15.00
1951	1205	1,740	Dec. 4, 1950	0.4	82.3	1.20	16.33	76.6	15.19
1952	1235	2,600	Jan. 27, 1952	.1	79.5	1.16	15.83	72.1	14.35
1953	1275	2,280	May 22, 1953	.2	51.7	.756	10.26	49.9	9.91
1954	1335	626	Apr. 17, 1954	.1	30.0	.439	5.96	53.0	10.53
1955	1385	2,920	Oct. 16, 1954	.4	76.2	1.11	15.12	56.4	11.21
1956	1435	2,740	May 13, 1956	1.1	114	1.67	22.69	115	22.96
1957	1505	3,230	Apr. 4, 1957	.2	62.0	.906	12.30	67.0	13.30
1958	1555	2,210	Aug. 1, 1958	1.3	78.9	1.15	15.67	74.5	14.81
1959	1625	4,290	Jan. 22, 1959	.5	72.7	1.06	14.44	85.3	16.93
1960	1705	1,470	Mar. 29, 1960	.8	64.7	.946	12.91	-	-

995. Mahoning River at Lowellville, Ohio

Location.--Lat 41°02'10", long 80°32'10", in T.1 N., R.1 W., on left bank 300 ft upstream from Washington Street Bridge at Lowellville, Mahoning County, 1 mile upstream from Ohio-Pennsylvania State line, and 3 miles downstream from Yellow Creek.

Drainage area.--1,076 sq mi.

Records available.--October 1942 to September 1960. Prior to August 1943 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 796.84 ft above mean sea level, adjustment of 1912. Prior to Oct. 26, 1944, wire-weight gage at site 300 ft downstream at same datum.

Average discharge.--18 years (1942-60), 1,111 cfs.

Extremes.--1942-60: Maximum discharge, 21,000 cfs Jan. 21, 1959 (gage height, 14.43 ft); minimum, 125 cfs June 29, 1952.

Maximum stage known, 17.8 ft in March 1913.

Revisions.--The momentary maximum discharge for the water year 1946, published in WSP 1305, has been revised to 20,000 cfs.

Remarks.--Flow regulated by Berlin, Milton, Mosquito Creek, and Meander Creek Reservoirs, together with reservoirs on Dry Run, Squaw and Yellow Creeks. Records of chemical analyses for the periods October 1951 to September 1953, October 1956 to September 1960 and water temperatures for the period October 1949 to September 1960, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	383	431	2,045	2,103	3,517	3,896	2,123	848	555	688	574	456	1,456
1952	333	824	1,743	4,546	3,492	1,977	1,818	696	275	351	607	804	1,434
1953	454	367	352	856	630	855	892	1,463	714	691	629	479	703
1954	364	267	283	323	380	1,427	1,825	875	491	498	483	362	633
1955	1,738	573	948	1,111	2,200	3,836	1,635	625	711	853	801	467	1,289
1956	389	790	361	273	2,609	3,393	2,337	3,198	2,216	1,916	2,158	1,150	1,729
1957	592	363	665	1,049	1,030	1,006	4,234	890	1,089	1,167	622	519	1,098
1958	380	336	1,251	970	822	921	931	1,459	662	2,205	2,024	969	1,084
1959	699	727	800	3,113	4,208	2,234	1,268	888	984	821	782	536	1,587
1960	1,019	1,237	2,238	2,055	1,862	1,660	1,567	1,095	842	599	655	434	1,255

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,424	-
1951	1205	9,210	Feb. 21, 1951	245	1,456	-	-	1,458	-
1952	1235	16,200	Jan. 27, 1952	147	1,434	-	-	1,291	-
1953	1275	7,230	May 22, 1953	252	703	-	-	877	-
1954	1355	7,050	Apr. 27, 1954	176	633	-	-	833	-
1955	1385	13,500	Oct. 16, 1954	352	1,289	-	-	1,142	-
1956	1555, 1435	14,200	May 13, 1956	205	1,729	-	-	1,741	-
1957	1505	12,200	Apr. 5, 1957	280	1,098	-	-	1,127	-
1958	1555	7,940	July 17, 1958	285	1,084	-	-	1,088	-
1959	1625	21,000	Jan. 21, 1959	310	1,387	-	-	1,596	-
1960	1705	11,600	Mar. 31, 1960	335	1,255	-	-	-	-

1005. Pymatuning Reservoir at Pymatuning Dam, Pa.

Location.--Lat 41°30'00", long 80°27'35", in gatehouse at Pymatuning Dam on Shenango River, Crawford County, 1½ miles northwest of Jamestown.

Drainage area.--158 sq mi.

Records available.--October 1932 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, adjustment of 1907. Prior to Nov. 20, 1934, staff gage or reference point at same site and datum.

Extremes.--1932-60: Maximum contents, 208,120 acre-ft May 14, 1956 (elevation, 1,009.36 ft); minimum, 30 acre-ft Oct. 15, 16, 19, 1933 (elevation, 975.70 ft), but may have been less during water year 1933 when Pymatuning Dam was under construction.

Remarks.--Reservoir is formed by earthfill dam, stone faced; dam completed in December 1933; all regulating gates closed Jan. 23, 1934. Capacity, 188,040 acre-ft between elevations 975.3 ft (sill of outlet gate) and 1,008.0 ft (crest of spillway). Dead storage, 10,150 acre-ft. Figures given herein represent usable contents above elevation 975.3 ft. Reservoir used to regulate flow in Shenango River and for flood control.

BEAVER RIVER BASIN

Contents, in acre-feet, on last day of month, of Pymatuning Reservoir at Pymatuning Dam, Pa.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	136,470	150,140	154,840	157,690	172,470	176,570	185,580	182,130	182,560	172,890	157,420	141,940
1952	130,300	135,040	163,990	196,220	177,420	179,840	184,860	191,100	176,140	163,710	154,840	139,840
1953	129,790	130,040	137,240	153,900	161,240	175,430	186,160	194,310	178,840	161,650	145,350	131,830
1954	118,490	112,620	112,860	122,970	137,630	169,540	192,260	177,850	172,330	156,610	139,710	126,110
1955	145,900	150,680	172,470	156,060	172,190	171,770	185,580	182,560	174,870	160,140	154,710	137,890
1956	135,170	147,340	161,650	162,470	181,410	179,700	187,610	188,760	188,620	180,840	173,460	148,670
1957	140,100	136,600	145,750	162,200	168,700	166,890	182,130	179,550	186,880	177,280	158,370	145,090
1958	132,600	129,660	148,010	158,510	158,650	171,070	174,440	178,420	179,270	184,290	154,170	140,890
1959	128,260	131,060	136,980	173,600	168,420	172,330	189,200	185,870	182,990	166,470	147,210	135,300
1960	145,880	157,290	152,020	154,440	156,610	169,820	174,870	191,680	181,130	169,820	156,470	141,150

1010. Sugar Run at Pymatuning Dam, Pa.

Location.--Lat 41°29'50", long 80°27'55", on right bank at highway bridge at Pymatuning Dam, Crawford County, a quarter of a mile upstream from mouth and $1\frac{1}{4}$ miles northwest of Jamestown.

Drainage area.--9.34 sq mi.

Records available.--March 1934 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 984.58 ft above mean sea level, adjustment of 1907. Prior to Oct. 17, 1938, staff gage at same site and datum.

Average discharge.--21 years (1934-55), 10.3 cfs.

Extremes.--1934-55: Maximum discharge observed, 2,800 cfs Sept. 4, 1937 (gage height, 6.80 ft), from rating curve extended above 500 cfs on basis of slope-area measurement at gage height 5.84 ft; no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.27	11.4	28.9	26.8	35.0	35.6	22.9	5.83	7.18	2.43	0.395	0.490	14.6
1952	.247	15.9	32.6	50.8	25.6	21.6	15.5	10.5	.629	.287	1.03	.331	14.4
1953	.236	4.80	8.82	18.2	8.06	17.1	11.6	11.2	2.72	.184	.071	.120	6.92
1954	.020	.154	1.50	7.34	9.32	32.7	26.2	5.05	1.30	.071	.0003	.022	6.95
1955	26.7	8.28	23.4	12.1	27.0	34.3	19.6	3.56	1.44	3.18	15.2	.523	14.6

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.16	1.37	3.56	3.30	3.90	4.39	2.73	0.47	0.86	0.30	0.05	0.06	21.15
1952	.03	1.90	4.02	6.27	2.96	2.66	1.61	1.30	.08	.04	.13	.04	21.04
1953	.03	.55	1.09	2.24	.90	2.11	1.39	1.58	.33	.02	.009	.01	10.06
1954	.002	.02	.19	.91	1.04	4.03	3.13	.82	.16	.009	.00004	.003	10.11
1955	3.30	.99	2.88	1.49	3.01	4.24	2.35	.44	.17	.39	1.88	.06	21.20

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	16.1	23.35
1951	1205	586	Dec. 3, 1950	0.02	14.6	1.56	21.15	15.1	22.01
1952	1235	856	Jan. 26, 1952	0	14.4	1.54	21.04	11.5	16.76
1953	1275	145	Jan. 18, 1953	0	6.92	.741	10.06	5.92	8.60
1954	1335	696	Mar. 1, 1954	0	6.95	.744	10.11	11.7	17.07
1955	1385	1,980	Oct. 15, 1954	.05	14.6	1.56	21.20	-	-

1015. Shenango River at Pymatuning Dam, Pa.

Location.--Lat 41°29'55", long 80°27'30", on left bank 500 ft downstream from Sugar Run, 550 ft downstream from Pymatuning Dam, Crawford County, and 1½ miles northwest of Jamestown.

Drainage area.--167 sq mi.

Records available.--June 1934 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 970.00 ft above mean sea level, adjustment of 1907.

Average discharge.--26 years (1934-60), 204 cfs (adjusted for storage).

Extremes.--1934-60: Maximum discharge, 1,540 cfs Sept. 4, 1937 (gage height, 9.2 ft); minimum, 0.1 cfs June 30 to July 3, 1934.

Remarks.--Flow regulated since 1933 by Pymatuning Reservoir.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	192	174	494	503	286	577	260	116	116	163	207	258	280
1952	194	145	71.9	339	783	350	186	179	212	169	196	253	254
1953	141	111	98.4	88.9	52.7	50.2	46.7	299	303	231	196	221	154
1954	170	109	92.2	54.6	20.0	41.1	292	336	92.4	218	218	210	155
1955	78.1	18.1	125	553	160	554	70.2	55.8	97.0	216	150	257	196
1956	142	42.9	37.8	83.5	341	682	355	548	281	307	587	558	330
1957	143	110	116	63.4	195	239	505	72.4	195	178	219	210	186
1958	206	115	69.2	24.0	278	120	103	31.2	124	127	515	340	170
1959	208	117	76.8	145	705	451	73.1	195	212	287	278	252	247
1960	49.6	138	611	394	403	258	237	56.2	194	184	167	218	242

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.17	2.70	3.93	3.79	3.45	4.45	2.74	0.41	0.82	0.04	-0.31	-0.01	22.18
1952	.03	1.51	3.75	5.96	2.94	2.69	1.81	1.94	-2.26	-2.3	.36	.01	20.51
1953	-.15	.77	1.49	2.49	1.16	1.94	1.52	2.99	.29	-.34	-.48	-.04	11.64
1954	-.32	.07	.66	1.51	1.77	3.86	4.51	.70	-0.003	-.26	-.39	-.13	11.98
1955	2.54	.88	3.31	1.97	2.80	3.78	2.02	.05	-.21	-.17	.43	-.17	17.23
1956	.68	1.66	1.87	.67	4.32	4.52	3.26	3.92	1.86	1.25	3.23	.94	28.18
1957	.03	.34	1.83	2.28	1.95	1.45	5.09	.21	2.12	.15	-.61	-.09	14.75
1958	.02	.44	2.54	1.35	1.75	2.23	1.07	.66	.92	1.44	.17	.78	13.37
1959	.02	1.10	1.20	5.12	4.98	3.55	2.39	.97	1.10	.12	-.24	.35	20.66
1960	1.53	2.21	3.62	2.98	2.85	3.26	2.15	2.27	.11	0	-.34	-.26	20.39

a Adjusted for change in contents in Pymatuning Reservoir. Negative figures indicate that evaporation and seepage from reservoir exceeded inflow.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted a/			Observed		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	296	333	27.09
1951	1205	880	Dec. 3, 1950	25	280	273	1.63	22.18	242	255	20.67
1952	1235	1,120	Jan. 26, 1952	6.1	254	251	1.50	20.51	249	212	17.33
1953	1275	518	Sept. 29, 1953	14.5	154	143	.856	11.64	156	122	9.94
1954	1335	940	Apr. 30 to May 4	13	155	147	.880	11.98	143	225	18.30
1955	1385	1,430	Oct. 15, 1954	10	196	212	1.27	17.23	196	181	14.71
1956	1435	1,030	June 22, 1956	11	330	345	2.07	28.18	343	321	26.17
1957	1505	1,360	June 29, 1957	5.0	186	181	1.08	14.75	188	191	15.55
1958	1555	1,460	July 15, 1958	16	170	164	.982	13.37	171	156	12.69
1959	1625	1,280	Jan. 21, 1959	13	247	239	1.43	20.66	281	302	25.70
1960	1705	910	Mar. 29, 1960	18	242	250	1.50	20.39	-	-	-

a Adjusted for change in contents in Pymatuning Reservoir.

1025. Little Shenango River at Greenville, Pa.

Location.--Lat 41°25'15", long 80°22'35", on left bank 1,500 ft downstream from Williamson Crossing Bridge, 1 mile northeast of Greenville, Mercer County, and 2 miles upstream from mouth.

Drainage area.--104 sq mi.

Records available.--October 1913 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 953.46 ft above mean sea level, adjustment of 1912. Prior to Nov. 4, 1915, staff gage, Nov. 4, 1915, to Sept. 30, 1918, water-stage recorder, Nov. 7, 1919, to Aug. 31, 1923, and Nov. 19, 1925, to June 20, 1934, staff gage, at site 1 mile downstream at datum 8.96 ft lower.

Average discharge.--47 years (1913-60), 142 cfs.

Extremes.--1913-60: Maximum discharge, 8,540 cfs Jan. 22, 1959 (gage height, 14.30 ft), from rating curve extended above 3,200 cfs on basis of slope-area measurement at gage height 12.26 ft; minimum, 2.9 cfs July 31, 1934 (gage height, 0.58 ft).

Remarks.--Some regulation at low flow by mills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	31.0	161	375	377	399	369	274	91.1	71.7	75.1	15.4	17.9	187
1952	15.7	162	304	593	303	275	204	296	35.7	24.4	30.1	19.9	190
1953	15.8	75.6	115	205	122	216	173	222	93.5	16.9	25.6	10.5	108
1954	7.45	12.1	32.1	92.8	140	329	330	102	29.4	11.4	7.89	6.41	91.2
1955	288	92.6	296	174	333	410	229	71.3	56.4	43.3	72.0	13.6	173
1956	65.0	253	145	44.5	437	417	321	325	206	80.5	229	107	218
1957	38.6	40.2	147	216	197	175	506	98.9	170	54.9	12.1	11.4	138
1958	14.7	27.4	231	97.2	135	211	142	146	82.0	457	93.7	42.3	141
1959	31.9	84.8	88.6	481	391	268	512	139	164	92.6	26.1	19.0	173
1960	139	185	319	249	214	278	173	267	60.6	27.2	23.4	12.2	163

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.34	1.73	4.16	4.18	4.00	4.09	2.94	1.01	.77	.83	.17	.19	24.41
1952	.17	1.95	3.37	6.57	3.14	3.05	2.19	3.28	.38	.27	.33	.21	24.91
1953	.18	.79	1.28	2.28	1.22	2.40	1.86	2.46	1.00	.19	.28	.11	14.05
1954	.08	.13	.36	1.03	1.40	3.64	3.54	1.13	.32	.13	.09	.07	11.92
1955	3.19	.99	3.28	1.93	3.35	4.55	2.46	.79	.61	.48	.80	.15	22.56
1956	.72	2.72	1.60	.49	4.53	4.62	3.44	3.60	2.22	.89	2.54	1.15	26.52
1957	.43	.43	1.63	2.40	1.97	1.94	5.43	1.10	1.82	.61	.13	.12	18.01
1958	.16	.29	2.56	1.08	1.35	2.53	1.52	1.62	.88	5.07	1.04	.45	18.35
1959	.35	.91	.98	5.33	3.91	2.97	3.35	1.54	1.76	1.03	.29	.20	22.62
1960	1.54	1.98	3.54	2.76	2.22	3.08	1.86	2.96	.65	.30	.26	.13	21.28

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	214	27.98
1951	1205	3,920	Dec. 4, 1950	11	187	1.80	24.41	181	23.67
1952	1235	4,750	Jan. 27, 1952	9.5	190	1.83	24.91	166	21.67
1953	1275	920	June 1, 1953	6.5	108	1.04	14.05	94.7	12.37
1954	1335	3,050	Mar. 1, 1954	4.4	91.2	1.877	11.92	144	18.81
1955	1385	6,620	Oct. 16, 1954	9.5	173	1.66	22.56	154	20.14
1956	1435	3,500	Nov. 16, 1955	11	218	2.10	28.52	198	25.97
1957	1505	3,050	Jan. 23, 1957	7.5	138	1.33	18.01	142	18.53
1958	1555	7,580	July 15, 1958	8.7	141	1.36	18.35	135	17.58
1959	1625	8,540	Jan. 22, 1959	13	173	1.66	22.62	210	27.44
1960	1705	3,580	Mar. 30, 1960	10	163	1.57	21.28	-	-

1030. Pymatuning Creek near Orangeville, Pa.

Location.--Lat 41°18'40", long 80°28'40", on right bank 2 miles upstream from mouth, 3 miles southeast of Orangeville, Mercer County, and 3 miles north of Sharpsville.

Drainage area.--169 sq mi.

Records available.--October 1913 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 873.35 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to Aug. 17, 1915, staff gage and Aug. 17, 1915, to Aug. 31, 1923, and Nov. 19, 1925, to June 18, 1934, chain gage, at site 1,500 ft downstream at datum 0.62 ft higher.

Average discharge.--47 years (1913-60), 208 cfs.

Extremes.--1913-60: Maximum discharge, 6,200 cfs Feb. 3, 1915 (gage height, 9.1 ft, from graph based on gage readings, site and datum then in use), from rating curve extended above 1,500 cfs on basis of logarithmic plotting; maximum gage height, 13.32 ft Jan. 22, 1959 (backwater from Shenango River); minimum observed, 0.5 cfs Sept. 25, 1933. Maximum stage known, 16.0 ft Mar. 26, 1913, site and datum then in use, from flood-mark (backwater from Shenango River).

Remarks.--Some regulation at low flows by mills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	25.8	179	583	473	613	637	447	113	77.0	79.5	14.5	15.2	270
1952	10.8	265	519	1052	456	394	503	199	20.8	13.8	42.9	15.9	275
1953	11.9	100	166	337	194	277	197	83.0	11.3	11.8	6.81	3.82	133
1954	4.10	8.75	30.1	121	203	599	512	156	83.6	6.11	4.48	3.82	144
1955	390	94.7	399	298	534	598	346	74.8	38.5	26.6	86.5	9.14	240
1956	101	355	221	52.0	692	644	472	439	271	268	440	115	338
1957	31.8	41.3	182	300	240	266	751	107	165	119	5.85	8.01	184
1958	8.91	21.8	311	165	132	333	128	203	41.7	453	107	41.7	163
1959	22.1	128	125	751	661	479	335	183	107	129	54.4	12.5	247
1960	190	258	461	384	342	296	337	310	53.6	19.7	17.9	4.91	223

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.18	1.18	3.97	3.22	3.78	4.35	2.95	0.77	0.51	0.54	0.10	0.10	21.65
1952	.07	1.75	3.54	7.18	2.91	2.69	2.00	1.36	.14	.09	.29	.11	22.13
1953	.08	.66	1.13	2.30	1.20	1.89	1.30	1.35	.55	.08	.08	.04	10.66
1954	.03	.06	.21	.83	1.25	4.09	3.38	1.06	.55	.04	.03	.03	11.56
1955	2.66	.63	2.72	2.03	3.29	4.08	2.28	.51	.25	.18	.59	.06	19.28
1956	.69	2.35	1.51	.35	4.42	4.39	3.12	2.99	1.79	1.83	3.00	.76	27.20
1957	.22	.27	1.24	2.05	1.48	1.81	4.96	.73	1.09	.81	.04	.05	14.75
1958	.06	.14	2.12	1.13	.81	2.27	.83	1.39	.28	3.09	.73	.28	13.13
1959	.15	.84	.85	5.12	4.07	3.27	2.21	1.25	.71	.88	.37	.08	19.80
1960	1.29	1.71	3.15	2.62	2.18	2.02	2.22	2.12	.35	.13	.12	.03	17.94

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	312	25.08
1951	1205	3,400	Dec. 4, 1950	5.2	270	1.60	21.65	270	21.68
1952	1235	4,000	Jan. 27, 1952	3.4	275	1.63	22.13	231	18.64
1953	1275	900	Mar. 25, 1953	1.4	133	.787	10.66	113	9.09
1954	1335	2,090	Mar. 3, 1954	1.2	144	.852	11.56	215	17.27
1955	1385	3,650	Oct. 16, 1954	5.1	240	1.42	19.28	222	17.82
1956	1435	3,600	Nov. 16, 1955	6.7	338	2.00	27.20	303	24.38
1957	1505	2,220	June 29, 1957	2.9	184	1.09	14.75	191	15.34
1958	1555	5,200	July 15, 1958	2.7	183	.964	13.13	157	12.65
1959	1625	5,360	Jan. 22, 1959	6.0	247	1.46	19.80	300	24.11
1960	1705	3,440	Mar. 31, 1960	2.5	223	1.32	17.94	-	-

BEAVER RIVER BASIN

1035. Shenango River at Sharpsville, Pa.

Location.--Lat 41°16'00", long 80°28'20", on left bank 700 ft upstream from Erie Railroad bridge at Sharpsville, Mercer County, and 3 miles downstream from Pymatuning Creek.

Drainage area.--588 sq mi.

Records available.--March 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 861.57 ft above mean sea level, datum of 1929, New York-Pennsylvania supplementary adjustment of 1943.

Average discharge.--22 years (1938-60), 748 cfs (adjusted for storage).

Extremes.--1938-60: Maximum discharge, 15,700 cfs Jan. 22, 1959 (gage height, 15.97 ft); minimum, 38 cfs Sept. 4, 1941 (gage height, 2.09 ft).
Maximum stage known, 19.3 ft Mar. 26, 1913, from Pymatuning survey-profile map.

Remarks.--Flow regulated since 1933 by Pymatuning Reservoir and by mills above station.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	271	684	1,990	1,940	1,618	2,062	1,384	498	370	412	249	325	997
1952	256	794	1,258	2,936	1,979	1,365	1,006	1,008	339	240	309	318	983
1953	189	364	501	906	562	812	650	928	603	289	266	264	528
1954	208	151	190	342	521	1,437	1,586	788	266	259	244	232	518
1955	1,303	322	1,176	1,251	1,405	2,190	956	290	249	390	529	298	863
1956	401	1,057	576	261	2,147	2,404	1,624	1,760	1,084	806	1,579	876	1,210
1957	262	226	575	867	852	914	2,502	465	755	451	240	242	692
1958	241	200	914	399	718	1,022	557	586	341	1,626	812	501	662
1959	305	455	414	1,907	2,183	1,570	1,108	680	599	639	389	289	870
1960	521	778	1,809	1,399	1,250	1,086	1,038	950	387	279	255	240	833

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.20	1.73	4.05	3.90	3.69	4.17	2.91	0.87	0.72	0.50	-0.006	0.12	22.85
1952	.13	1.66	3.39	6.78	3.03	2.76	2.06	2.18	.17	.07	.32	.12	22.67
1953	.05	.70	1.21	2.31	1.23	2.04	1.57	2.08	.65	.02	.002	.07	11.93
1954	-.02	.10	.38	.99	1.40	3.84	3.74	1.09	.33	.006	-.06	.006	11.80
1955	3.12	.83	3.00	1.93	3.00	4.28	2.25	.47	.23	.29	.86	.03	20.29
1956	.70	2.40	1.59	.54	4.54	4.66	3.34	3.49	2.05	1.33	2.86	.87	28.37
1957	.24	.32	1.42	2.23	1.72	1.74	5.23	.83	1.66	.58	-.13	.04	15.88
1958	.07	.29	2.37	1.12	1.27	2.40	1.16	1.28	.67	3.34	.63	.53	15.13
1959	.20	.95	1.00	4.91	4.03	3.21	2.64	1.22	1.05	.73	.15	.17	20.26
1960	1.36	1.84	3.38	2.82	2.36	2.55	2.13	2.40	.40	.19	.07	-.03	19.47

a Adjusted for change in contents in Pymatuning Reservoir. Negative figures indicate that evaporation and seepage from reservoir exceeded inflow.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted a/			Observed		Adjusted a/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	1,099	1,156	26.22	
1951	1205	10,300	Dec. 5, 1950	164	997	990	1.68	22.85	943	956	22.05
1952	1235	12,800	Jan. 27, 1952	164	983	980	1.67	22.67	878	841	19.45
1953	1275	-	Mar. 25, 1953	131	528	517	.879	11.93	486	452	10.43
1954	1335	7,070	Mar. 2, 1954	94	518	510	.867	11.80	709	791	18.29
1955	1385	13,900	Oct. 16, 1954	109	863	879	1.49	20.29	796	781	18.03
1956	1435	8,170	Nov. 17, 1955	125	1,210	1,225	2.08	28.37	1,130	1,108	25.66
1957	1505	7,070	Jan. 24, 1957	166	692	687	1.17	15.88	717	720	16.63
1958	1555	12,900	July 16, 1958	110	662	656	1.12	15.13	646	631	14.55
1959	1625	15,700	Jan. 22, 1959	177	870	862	1.47	20.26	1,034	1,055	24.69
1960	1705	8,980	Mar. 31, 1960	145	833	841	1.43	19.47	-	-	-

a Adjusted for change in contents in Pymatuning Reservoir.

1055. Beaver River at Wampum, Pa.

Location.--Lat 40°53'15", long 80°20'05", on right bank at downstream side of bridge on State Highway 288 at Wampum, Lawrence County, 2½ miles upstream from Connoquenessing Creek.

Drainage area.--2,235 sq mi.

Records available.--July 1914 to September 1918, August 1932 to September 1960. Monthly discharge only for some periods, published in WSP 1305. Published as "at Newport" 1914-18.

Gage.--Water-stage recorder. Datum of gage is 736.24 ft above mean sea level (Pennsylvania RR. bench mark). Prior to Sept. 30, 1914, staff gage at site 500 ft downstream at datum 0.76 ft lower. Oct. 1, 1914, to Sept. 30, 1918, chain gage at site 1 mile upstream at datum 0.84 ft higher. Aug. 26, 1932, to Oct. 3, 1933, chain gage and Oct. 3, 1933, to Nov. 16, 1938, staff gage, at present site and datum. Since 1932, auxiliary gage 10 miles downstream at station at Beaver Falls which is used during periods of backwater from Connoquenessing Creek.

Average discharge.--32 years (1914-18, 1932-60), 2,382 cfs (adjusted for storage since 1932).

Extremes.--1914-18, 1932-60: Maximum discharge, 50,100 cfs May 28, 1946 (backwater from Connoquenessing Creek), from rating curve extended above 24,000 cfs on basis of contracted-opening measurement at gage height 21.44 ft; maximum gage height, 24.46 ft Jan. 22, 1959 (backwater from Connoquenessing Creek); minimum discharge observed, 74 cfs July 30, 1933 (gage height, 1.70 ft); minimum daily, 97 cfs July 22, Aug. 23, 1933.

Maximum stage known, 29.9 ft Mar. 26, 1913, from floodmark (discharge, about 87,000 cfs).

Remarks.--Flow regulated since 1942 by Berlin, since 1916 by Milton, since 1943 by Mosquito Creek, since 1929 by Meander Creek, and since 1933 by Pymatuning Reservoirs.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	792	1,496	5,774	5,895	7,326	7,951	5,079	2,073	1,182	1,360	953	915	3,381
1952	704	2,160	4,011	10,180	7,042	4,664	4,191	2,789	878	729	1,041	1,117	3,285
1953	734	920	1,268	2,631	1,800	2,647	2,601	3,705	2,032	1,216	1,007	869	1,788
1954	809	500	562	933	1,519	4,247	5,015	2,335	1,143	837	834	695	1,585
1955	4,752	1,327	3,311	3,373	5,259	6,097	3,919	1,518	1,266	1,523	1,961	834	3,074
1956	1,014	2,617	1,473	790	7,083	7,374	5,599	6,215	4,467	4,027	4,923	2,537	3,995
1957	1,103	788	1,846	2,909	2,857	2,804	9,096	2,044	2,028	1,972	891	821	2,418
1958	647	596	2,836	1,755	1,926	2,955	2,233	3,043	1,477	5,893	3,888	2,099	2,459
1959	1,211	1,611	1,461	7,238	8,600	5,146	3,554	2,330	1,887	1,725	1,379	910	3,054
1960	1,890	2,638	5,486	4,736	4,514	3,652	3,713	3,293	2,008	1,078	1,120	707	2,885

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.17	0.92	3.31	3.52	3.60	4.31	2.67	1.03	0.43	0.44	0.09	0.16	20.45
1952	.13	1.25	2.72	5.95	2.61	2.62	2.28	1.54	.23	.15	.20	.22	20.10
1953	.11	.40	.71	1.82	.92	1.72	1.64	2.11	.67	.20	.10	.11	10.51
1954	.04	.11	.24	.59	.82	3.07	3.19	1.00	.42	.05	.09	.09	9.71
1955	2.89	.60	2.05	1.65	2.60	4.14	2.35	.52	.44	.36	.67	.09	18.56
1956	.44	1.51	.68	.40	4.37	3.85	3.00	3.29	2.19	1.93	2.34	.75	24.95
1957	.28	.27	1.09	1.89	1.53	1.51	4.32	1.02	1.05	.73	.02	.12	14.43
1958	.10	.22	1.91	1.07	.97	1.78	1.37	1.59	.63	3.33	1.46	.77	15.20
1959	.25	.80	.79	4.55	3.68	2.73	2.15	1.19	.85	.55	.33	.17	18.24
1960	*1.11	*1.46	*2.91	*2.54	*2.10	*2.39	*1.74	*1.97	*.86	*.25	*.29	*.03	*17.65

a Adjusted for change in contents in Berlin, Milton, Mosquito Creek, Meander Creek, and Pymatuning Reservoirs.

* Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted a/			Observed	Adjusted a/	
		Momentary maximum		Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date	day							
1950			-	-	-	-	-	-	3,463	3,592	21.81
1951	205,1385	22,300	Dec. 4, 1950	610	3,381	3,568	1.51	20.45	3,278	3,318	20.15
1952	235,1385	36,700	Jan. 27, 1952	507	3,285	3,303	1.48	20.10	2,954	2,830	17.72
1953	1275	13,700	May 22, 1953	562	1,788	1,733	.775	10.51	1,683	1,597	9.68
1954	1335	14,100	Mar. 3, 1954	407	1,585	1,598	.715	9.71	2,239	2,445	14.86
1955	1385	41,400	Oct. 16, 1954	639	3,074	3,059	1.37	18.56	2,707	2,612	15.85
1956	1435	23,200	Feb. 25, 26	566	3,995	4,096	1.83	24.95	3,885	3,900	23.76
1957	1505	24,100	Apr. 5, 1957	598	2,418	2,377	1.06	14.43	2,448	2,474	15.02
1958	1555	20,900	July 17, 1958	444	2,459	2,503	1.12	15.20	2,474	2,440	14.81
1959	1625	45,900	Jan. 22, 1959	628	3,054	3,008	1.35	18.24	3,536	*3,608	*21.88
1960	1705	24,000	Mar. 31, 1960	646	2,885	*2,897	1.30	*17.65			-

a Adjusted for change in contents in Berlin, Milton, Mosquito Creek, Meander Creek, and Pymatuning Reservoirs.

* Revised.

1060. Connoquenessing Creek at Hazen, Pa.

Location.--Lat 40°49'00", long 80°14'35", on right bank at downstream side of highway bridge at Hazen, Beaver County, half a mile upstream from Brush Creek and 4 miles southeast of Ellwood City.

Drainage area.--356 sq mi.

Records available.--October 1919 to September 1960. June 1915 to September 1919 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania. Prior to October 1928 published as "near Hazen." Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 852.31 ft above mean sea level, adjustment of 1912. Prior to June 23, 1941, chain gage at same site and datum.

Average discharge.--41 years (1919-60), 481 cfs.

Extremes.--1919-60: Maximum discharge, 23,000 cfs June 29, 1924 (gage height, 16.66 ft), from rating curve extended above 18,000 cfs by logarithmic plotting; minimum observed, 6.0 cfs July 21-23, 1936 (gage height, 0.82 ft).

Remarks.--Some regulation by mills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	102	696	1,412	1,468	1,557	1,041	952	303	241	134	29.5	35.3	659
1952	26.0	175	669	2,074	925	905	775	1,078	198	74.0	65.6	39.4	585
1953	29.5	60.7	239	624	374	813	820	680	355	77.0	56.4	35.4	347
1954	21.8	29.1	53.1	279	279	1,021	1,020	257	495	60.7	50.2	46.3	300
1955	1,290	172	801	516	1,117	1,096	608	165	213	61.7	92.7	41.3	512
1956	110	309	161	144	2,048	1,273	1,236	1,161	1,094	733	715	179	757
1957	132	71.7	545	623	596	565	1,871	238	124	93.5	18.0	68.8	409
1958	45.7	134	896	462	401	626	657	903	183	638	770	361	509
1959	128	199	335	1,028	1,089	777	655	371	145	137	63.7	28.9	409
1960	332	471	948	802	691	791	554	722	506	114	61.1	28.3	502

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.33	2.18	4.57	4.75	4.55	3.37	2.98	0.98	0.75	0.44	0.10	0.11	25.11
1952	.08	.55	2.16	6.72	2.80	2.93	2.43	3.49	.62	.24	.21	.12	22.35
1953	.10	.19	.77	2.02	1.09	2.63	2.57	2.20	1.11	.25	.18	.11	13.22
1954	.07	.09	.17	.90	.82	3.31	3.20	.83	1.55	.20	.16	.15	11.45
1955	4.18	.54	2.59	1.67	3.27	3.55	1.91	.53	.67	.20	.30	.13	19.54
1956	.36	.97	.52	.47	6.21	4.12	3.87	3.76	3.43	2.37	2.32	.56	28.96
1957	.43	.22	1.76	2.02	1.74	1.83	5.86	.77	.39	.30	.06	.22	15.60
1958	.15	.42	2.90	1.50	1.17	2.03	2.06	2.93	.57	2.49	2.49	1.13	19.42
1959	.42	.62	1.08	3.33	3.18	2.52	2.05	1.20	.45	.44	.21	.09	15.59
1960	1.08	1.48	3.07	2.60	2.09	2.56	1.74	2.34	1.59	.37	.20	.09	19.21

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1950	-	-	-	-	-	-	-	689	26.25		
1951	1205	10,200	Dec. 4, 1950	14	659	1.85	25.11	546	20.82		
1952	1235, 1395	15,200	Jan. 27, 1952	16	585	1.64	22.35	540	20.62		
1953	1275	5,500	Mar. 24, 1953	12	347	.975	13.22	328	12.49		
1954	1335	6,940	Apr. 17, 1954	16	300	.843	11.45	483	18.43		
1955	1385	18,200	Oct. 16, 1954	16	512	1.44	19.54	369	14.08		
1956	1435	10,300	Feb. 26, 1956	32	757	2.13	28.96	772	29.52		
1957	1505	15,400	Apr. 5, 1957	8.5	409	1.15	15.60	437	16.66		
1958	1555	8,120	Aug. 1, 1958	21	509	1.43	19.42	474	18.07		
1959	1625	10,400	Jan. 22, 1959	14	409	1.15	15.59	501	19.10		
1960	1705	7,600	Mar. 30, 1960	18	502	1.41	19.21	-	-		

1065. Slippery Rock Creek at Wurtensburg, Pa.

Location.--Lat 40°53'00", long 80°13'55", on left bank at highway bridge at Camp Elwood, 2 miles north of Wurtensburg, Lawrence County, and 2.8 miles upstream from mouth.

Drainage area.--398 sq mi.

Records available.--October 1911 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 831.40 ft above mean sea level, adjustment of 1907. Jan. 1, 1912, to Sept. 30, 1922, chain gage at site $1\frac{1}{2}$ miles downstream at datum 13.77 ft lower and Oct. 1, 1922, to Sept. 30, 1940, chain gage at site 2 miles downstream at datum 18.92 ft lower.

Average discharge.--49 years (1911-60), 571 cfs.

Extremes.--1911-60: Maximum discharge, 19,000 cfs Jan. 25, 1937 (gage height, 12.05 ft, from floodmark, site and datum then in use), from rating curve extended above 8,000 cfs; minimum observed, 16 cfs Sept. 13, 1932.

Remarks.--Some regulation at low flow by mills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	146	662	1,484	1,564	1,641	1,456	1,354	610	340	279	79.5	83.5	803
1952	66.7	375	791	2,225	1,160	1,027	1,016	1,370	203	78.5	113	131	714
1953	71.0	163	396	819	528	971	1,142	581	123	58.7	56.0	489	489
1954	47.0	70.6	118	332	387	1,052	1,450	462	845	107	75.1	80.6	415
1955	1,316	236	917	620	1,109	1,496	956	322	509	115	124	53.3	646
1956	114	378	252	110	2,089	1,440	1,563	1,123	1,559	1,208	905	344	917
1957	158	122	519	704	792	674	1,941	542	222	128	50.0	66.2	490
1958	58.1	121	817	512	415	752	662	911	325	1,307	670	458	586
1959	177	424	387	1,457	1,370	888	908	471	227	114	63.2	41.0	539
1960	228	454	1,121	968	856	902	753	958	685	152	83.6	50.6	601

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.42	1.85	4.50	4.53	4.29	4.22	3.80	1.77	0.95	0.81	0.23	0.23	27.40
1952	.19	1.05	2.29	6.45	3.14	2.98	2.85	3.97	.57	.23	.33	.37	24.42
1953	.21	.46	1.15	2.35	1.38	2.81	2.68	3.31	1.63	.36	.16	.18	16.68
1954	.14	.20	.34	.96	1.01	3.05	4.01	1.34	2.37	.31	.21	.23	14.17
1955	3.81	.66	2.66	1.80	2.90	4.33	2.68	.93	1.43	.33	.36	.15	22.04
1956	.33	1.06	.73	.32	5.66	4.17	4.38	3.25	4.37	3.50	2.62	.96	31.55
1957	.46	.34	1.50	2.04	2.07	1.95	5.44	1.57	.62	.37	.14	.19	16.69
1958	.17	.34	2.37	1.48	1.09	2.18	1.85	2.64	.91	3.79	1.94	1.23	19.99
1959	.51	1.19	1.12	4.22	3.58	2.57	2.55	1.36	.64	.33	.18	.11	18.36
1960	.66	1.27	3.25	2.81	2.32	2.61	2.11	2.78	1.92	.44	.24	.14	20.55

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	810	27.60
1951	1205	7,700	Dec. 4, 1950	52	803	2.02	27.40	714	24.36
1952	1235	11,000	Jan. 27, 1952	41	714	1.79	24.42	663	22.71
1953	1275	4,480	May 23, 1953	36	489	1.23	16.68	456	15.54
1954	1335	6,730	Apr. 17, 1954	38	415	1.04	14.17	604	20.62
1955	1385, 1625	13,500	Oct. 16, 1954	34	646	1.62	22.04	499	17.03
1956	1435	12,000	June 22, 1956	51	917	2.30	31.35	922	31.53
1957	1505	7,380	Apr. 4, 1957	40	490	1.23	16.69	506	17.27
1958	1555	6,560	July 16, 1958	46	586	1.47	19.99	584	19.93
1959	1625	14,000	Jan. 22, 1959	31	539	1.35	18.36	608	20.72
1960	1705	8,500	Mar. 30, 1960	44	601	1.51	20.55	-	-

1075. Beaver River at Beaver Falls, Pa.

Location.--Lat 40°45'45", long 80°18'55", on left bank at Beaver Falls, Beaver County, 200 ft upstream from pumping plant of Beaver Valley Water Co., 5.5 miles upstream from mouth, and 7 miles downstream from Connoquenessing Creek.

Drainage area.--3,106 sq mi.

Records available.--October 1935 to September 1960 (fragmentary records only prior to October 1956). Gage-height records collected at same site since 1908 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 727.48 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to Dec. 3, 1941, tape gage at site 200 ft downstream at same datum.

Extremes.--1935-60: Maximum discharge, 69,900 cfs Jan. 22, 1959 (gage height, 14.42 ft); minimum not determined.

Maximum stage known, 17.4 ft Mar. 27, 1913 (discharge, 103,000 cfs, from rating curve extended above 60,000 cfs by logarithmic plotting).

Remarks.--Flow regulated since 1942 by Berlin, since 1916 by Milton, since 1943 by Mosquito Creek, since 1929 by Meander Creek, and since 1933 by Pymatuning Reservoirs. Records of chemical analyses and water temperatures 2.5 miles downstream at New Brighton, Pa. for the period October 1945 to June 1953 and records of chemical analyses at this site for the period October 1956 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	9,208	9,438	11,270	11,180	8,086	3,345	-	-	-	-	-
1952	-	-	5,771	15,080	9,741	7,131	6,402	5,720	-	-	-	-	-
1953	-	-	-	-	3,088	4,938	4,906	6,028	3,312	-	-	-	-
1954	-	-	-	-	-	6,834	8,064	-	-	-	-	-	-
1955	-	-	-	-	-	11,500	-	-	-	-	-	-	-
1956	-	-	-	-	11,960	10,720	8,694	9,179	7,538	6,355	6,704	-	-
1957	1,473	1,005	3,113	4,369	4,492	4,350	13,620	3,064	2,393	2,387	988	1,037	3,505
1958	736	1,010	5,037	2,999	5,191	4,707	3,965	5,404	2,124	7,925	5,851	3,045	3,852
1959	1,589	2,333	2,414	10,140	11,580	7,077	5,480	3,488	2,282	2,065	1,572	1,010	4,208
1960	2,620	3,659	7,825	6,823	6,224	5,603	5,580	5,374	3,553	1,477	1,313	796	4,235

Monthly and yearly runoff, in inches (adjusted) ^a/_b

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	3.65	3.70	3.92	4.30	3.00	1.21	-	-	-	-	-
1952	-	-	2.61	6.10	2.97	2.80	2.43	2.19	-	-	-	-	-
1953	-	-	-	-	1.09	2.09	2.01	2.37	0.94	-	-	-	-
1954	-	-	-	-	-	3.17	3.39	-	-	-	-	-	-
1955	-	-	-	-	-	4.24	-	-	-	-	-	-	-
1956	-	-	-	-	4.84	4.01	3.27	3.47	2.68	2.25	2.34	-	-
1957	0.34	0.27	1.26	1.90	1.66	1.66	5.17	1.11	.89	.68	.05	0.16	15.15
1958	.10	.31	2.19	1.23	1.12	1.94	1.61	2.02	.69	3.15	1.79	.89	17.04
1959	.32	.83	.93	4.36	3.79	2.69	2.24	1.29	.76	.52	.31	.16	18.20
1960	*1.07	*1.42	*2.95	*2.61	*2.16	*2.43	*1.92	*2.19	*1.17	*.33	*.28	*.06	*18.61

^a Adjusted for change in contents in Berlin, Milton, Mosquito Creek, Meander Creek, and Pymatuning Reservoirs.

* Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^a / _b			Observed	Adjusted ^a / _b	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	-	-	-
1951	1205	40,500	Dec. 4, 1950	-	-	-	-	-	-	-	-
1952	1235	56,000	Jan. 27, 1952	-	-	-	-	-	-	-	-
1953	1275	20,800	May 23, 1953	-	-	-	-	-	-	-	-
1954	1335	26,700	Apr. 17, 1954	-	-	-	-	-	-	-	-
1955	1385	58,500	Oct. 16, 1954	-	-	-	-	-	-	-	-
1956	1435	40,200	Feb. 26, 1956	-	-	-	-	-	-	-	-
1957	1505	43,400	Apr. 5, 1957	688	3,505	3,464	1.12	15.15	3,607	3,633	15.88
1958	1555	28,100	Aug. 1, 1958	530	3,852	3,896	1.25	17.04	3,811	3,777	16.52
1959	1625	69,900	Jan. 22, 1959	686	4,208	4,162	1.34	18.20	4,864	*4,932	*21.56
1960	1705	37,800	Mar. 31, 1960	700	4,235	*4,247	1.37	*18.61	-	-	-

^a Adjusted for change in contents in Berlin, Milton, Mosquito Creek, Meander Creek, and Pymatuning Reservoirs.

* Revised.

1080. Raccoon Creek at Moffatts Mill, Pa.

Location.--Lat 40°37'40", long 80°20'20", on left bank at downstream side of highway bridge at Moffatts Mill, Beaver County, 1.4 miles downstream from Gums Run, 4 miles south of Vanport, and 4.2 miles upstream from mouth.

Drainage area.--178 sq mi.

Records available.--September 1941 to September 1960. May 1915 to July 1932 (gage heights and discharge measurements only) in reports of Pennsylvania Department of Forests and Waters.

Gage.--Water-stage recorder. Datum of gage is 719.16 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944 (Corps of Engineers bench mark). May 27, 1915, to July 31, 1932, and Sept. 2 to Dec. 3, 1941, chain or staff gages at same site and datum.

Average discharge.--19 years (1941-60), 200 cfs.

Extremes.--1941-60: Maximum discharge, 8,590 cfs Jan. 27, 1952 (gage height, 9.71 ft), from rating curve extended above 3,700 cfs on basis of logarithmic plotting; minimum, 4.8 cfs Sept. 7, 8, 1945 (gage height, 1.30 ft).

Flood of Apr. 15, 1922, reached a stage of 9.80 ft (discharge, 10,000 cfs, from rating curve extended above 4,500 cfs). Flood of Mar. 5, 1920 (ice jam) equalled that of Apr. 15, 1922.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	45.2	190	590	601	636	645	460	233	159	166	29.1	31.4	314
1952	23.2	78.5	285	737	426	405	384	388	96.5	37.8	70.0	25.2	246
1953	18.5	32.8	79.2	261	177	255	364	303	181	61.9	23.1	16.5	148
1954	10.8	15.3	21.8	63.7	51.1	283	295	129	128	25.3	44.3	22.4	90.9
1955	359	55.9	174	174	451	547	254	89.7	85.4	32.4	110	34.5	200
1956	43.6	159	76.5	90.8	788	625	445	498	394	135	354	57.2	303
1957	54.5	36.0	178	187	218	229	757	128	76.9	95.3	14.8	30.9	166
1958	21.5	59.2	265	203	164	202	208	416	61.3	143	241	90.8	174
1959	47.9	40.6	89.2	384	432	274	299	185	91.7	102	71.8	19.3	168
1960	117	116	300	349	291	306	210	292	97.0	67.4	40.0	30.8	185

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.29	1.19	3.82	3.89	3.72	4.18	2.88	1.51	1.00	1.07	0.19	0.20	23.94
1952	.15	.49	1.84	4.77	2.58	2.62	2.40	2.52	.61	.24	.45	.16	18.83
1953	.12	.21	.51	1.69	1.04	1.65	2.28	1.96	1.13	.40	.15	.10	11.24
1954	.07	.10	.14	.41	.30	1.84	1.85	.84	.80	.16	.29	.14	6.94
1955	2.33	.35	1.41	1.13	2.64	3.54	1.59	.58	.54	.21	.71	.22	15.25
1956	.28	1.00	.50	.59	4.77	4.05	2.79	3.22	2.47	.87	2.29	.36	23.19
1957	.35	.23	1.15	1.21	1.28	1.48	4.75	.83	.48	.62	.10	.19	12.67
1958	.14	.37	1.71	1.32	.96	1.31	1.30	2.70	.38	.93	1.56	.57	13.25
1959	.31	.25	.58	2.49	2.53	1.77	1.87	1.20	.57	.66	.47	.12	12.82
1960	.76	.73	1.94	2.26	1.76	1.98	1.32	1.89	.61	.44	.26	.19	14.14

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	-	20.92
1951	1205	4,350	Jan. 15, 1951	13	314	1.76	23.94	274	277	21.12
1952	1235	8,590	Jan. 27, 1952	11	246	1.38	18.83	225	179	17.19
1953	1275	2,260	June 17, 1953	7.6	148	.831	11.24	141	10.71	10.71
1954	1335	1,300	Apr. 17, 1954	7.1	90.9	.511	6.94	140	10.72	10.72
1955	1385	6,250	Oct. 16, 1954	10	200	1.12	15.25	170	12.94	12.94
1956	1435	6,430	Aug. 6, 1956	21	303	1.70	23.19	303	23.14	23.14
1957	1505	6,430	Apr. 5, 1957	9.2	166	.933	12.67	173	13.16	13.16
1958	1555	2,680	May 5, 1958	13	174	.978	13.25	160	12.17	12.17
1959	1625	5,110	Jan. 22, 1959	13	168	.944	12.82	198	15.11	15.11
1960	1705	2,350	May 8, 1960	18	185	1.04	14.14	-	-	-

OHIO RIVER MAIN STEM

1085. Ohio River at Montgomery Island Dam, Pa.

Location.--Lat 40°38'50", long 80°23'20" on left bank at Montgomery Island Dam, Beaver County, 2.2 miles downstream from Raccoon Creek, 5½ miles southwest of Beaver, and at mile 31.7.

Drainage area.--22,960 sq mi, approximately.

Records available.--July 1941 to September 1951 (fragmentary).

Gage.--Staff gage. Datum of gage is 653.6 ft above mean sea level, adjustment of 1912. Auxiliary staff gage at lock 7, 4.8 miles downstream, at datum 6.4 ft lower.

Extremes.--1941-51: Maximum discharge, 438,000 cfs Dec. 31, 1942 (gage height, 46.8 ft); minimum not determined.

Remarks.--Figures of monthly discharge are shown only when dailies were in excess of 25,000 cfs for complete months. Flow partly regulated by locks, dams, and reservoirs above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	81,260	86,780	91,580	76,490	80,460	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	297,000	Dec. 5, 1950	-	-	-	-	-	-

LITTLE BEAVER CREEK BASIN

1090. Lisbon Creek at Lisbon, Ohio

Location.--Lat 40°46'55", long 80°45'50", in NW¼ sec.13, T.14 N., R.3 W., on left bank at City Water Works of Lisbon, Columbiana County, 800 ft upstream from bridge on State Highway 164 and 1 mile upstream from mouth.

Drainage area.--6.08 sq mi.

Records available.--September 1946 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 963.28 ft above mean sea level, adjustment of 1912.

Average discharge.--14 years (1946-60), 6.15 cfs.

Extremes.--1946-60: Maximum discharge, 1,500 cfs July 31, 1958 (gage height, 7.47 ft), from rating curve extended above 110 cfs on basis of indirect measurements at gage heights 4.39, 5.84, and 7.47 ft; minimum, 0.1 cfs at times during 1946, 1951-55, 1957, 1959, 1960.

Remarks.--Water supply for city of Lisbon is pumped from wells adjacent to creek just upstream from station. Pumpage is diverted from Lisbon Creek as recharge aquifer supplying well field. Sewage is returned to creek downstream from the station.

Revisions.--Figures of discharge in cubic feet per second per square mile and runoff in inches published in some water-supply papers for water years 1946-60 have been found in error because of diversions above station and should not be used. Those figures are not published herein.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.90	5.20	17.7	19.7	22.3	24.4	14.4	4.33	1.62	2.60	0.27	0.53	9.51
1952	.35	2.71	9.51	26.5	13.3	14.2	14.9	6.47	1.06	.33	.36	.62	7.53
1953	.32	.91	1.80	6.04	3.94	6.94	10.6	19.2	3.66	.93	.16	.18	4.59
1954	.15	.22	.29	1.06	.64	8.25	10.9	5.14	5.53	.24	.44	.46	2.78
1955	15.7	2.09	7.06	6.64	15.0	17.9	8.11	2.26	2.56	.38	.67	.20	6.52
1956	.62	2.58	1.10	1.86	31.1	17.4	11.1	19.4	6.18	3.06	6.40	1.86	8.46
1957	1.21	1.88	4.76	5.96	6.19	5.29	20.6	3.47	2.94	2.96	.30	.48	4.55
1958	.79	1.55	8.01	6.70	5.41	6.04	11.7	11.2	5.59	22.2	10.7	5.21	7.96
1959	1.70	1.79	1.95	19.4	17.4	8.90	8.91	5.25	10.8	3.19	1.90	.37	6.72
1960	2.58	3.63	11.0	11.3	10.3	12.5	5.60	7.46	8.57	1.92	.74	.26	6.33

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	298	Dec. 7, 1950	0.1	9.51	-	-	8.37	18.71
1952	1235	442	Jan. 26, 1952	.1	7.53	-	-	8.48	18.95
1953	1275	434	May 22, 1953	.1	4.59	-	-	6.72	15.04
1954	1335	542	June 16, 1954	.1	2.78	-	-	4.59	9.79
1955	1385	655	Oct. 15, 1954	.1	6.52	-	-	4.63	10.76
1956	1435	782	Feb. 25, 1956	.2	8.46	-	-	4.77	10.64
1957	1505	510	Apr. 4, 1957	.1	4.55	-	-	8.68	19.45
1958	1555	1,500	July 31, 1958	.3	7.98	-	-	4.85	10.83
1959	1625	811	Jan. 21, 1959	.1	6.72	-	-	7.54	16.85
1960	1705	185	June 12, 1960	.2	6.33	-	-	7.73	17.28

1095. Little Beaver Creek near East Liverpool, Ohio

Location.--Lat 40°40'32", long 80°32'23", on right bank at downstream side of Grimms Bridge, 1½ miles upstream from Island Run, 4 miles upstream from mouth, and 4 miles northeast of East Liverpool, Columbiana County.

Drainage area.--505 sq mi.

Records available.--May 1915 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 702.77 ft above mean sea level, adjustment of 1912. Prior to Sept. 22, 1926, chain gage at same site and datum.

Average discharge.--45 years (1915-60), 525 cfs.

Extremes.--1915-60: Maximum discharge, 25,000 cfs July 19, 1941 (gage height, 17.4 ft), from rating curve extended above 16,000 cfs on basis of slope-area measurement of peak flow; minimum, 12 cfs several days in 1918, 1930, 1932, 1936; minimum gage height, 1.53 ft Aug. 13, 1930.

Maximum stage known, about 20 ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	96.6	429	1,522	1,452	1,630	1,748	1,201	411	154	203	52.6	58.9	742
1952	53.9	242	727	2,237	1,170	1,087	1,132	839	169	90.7	95.3	113	663
1953	58.4	136	253	696	430	620	987	1,278	595	235	58.6	61.4	451
1954	32.1	45.5	68.0	124	102	863	1,202	548	295	43.0	56.2	47.1	286
1955	1,380	196	660	634	1,288	1,579	921	244	182	72.8	143	43.4	609
1956	80.6	244	140	144	1,957	1,613	1,149	1,861	809	797	735	221	809
1957	150	102	482	605	597	610	1,975	353	212	281	44.6	77.1	455
1958	56.5	112	687	662	448	566	804	975	345	1,234	1,415	456	651
1959	169	153	198	1,433	1,459	850	909	679	562	230	153	51.2	565
1960	209	360	911	976	892	943	570	629	714	227	120	70.2	551

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.22	0.95	3.47	3.32	3.36	3.99	2.66	0.94	0.34	0.46	0.12	0.13	19.96
1952	.12	.53	1.66	5.11	2.50	2.48	2.50	1.91	.37	.21	.22	.25	17.86
1953	.13	.30	.58	1.59	.89	1.42	2.18	2.92	1.32	.54	.13	.14	12.14
1954	.07	.10	.16	.28	.21	1.97	2.66	1.26	.65	.10	.13	.10	7.69
1955	3.15	.43	1.51	1.45	2.66	3.61	2.03	.56	.40	.17	.33	.10	16.40
1956	.18	.54	.32	.33	4.18	3.68	2.54	4.25	1.78	1.82	1.68	.49	21.79
1957	.34	.23	1.10	1.38	1.23	1.40	4.36	.81	.47	.64	.10	.17	12.23
1958	.13	.25	1.57	1.51	.92	1.29	1.77	2.22	.76	2.81	3.23	1.01	17.47
1959	.39	.34	.45	3.27	3.01	1.94	2.01	1.54	1.24	.52	.35	.11	15.17
1960	.46	.80	2.08	2.22	1.91	2.16	1.26	1.44	1.57	.52	.27	.16	14.85

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	711	19.11	
1951	1205	12,500	Dec. 3, 1950	33	742	1.47	19.96	656	17.63	
1952	1235	15,800	Jan. 27, 1952	31	663	1.31	17.86	614	16.56	
1953	1275	7,500	May 23, 1953	25	451	.893	12.14	426	11.46	
1954	1335	6,700	Apr. 17, 1954	18	286	.566	7.69	463	12.45	
1955	1385	21,500	Oct. 15, 1954	24	609	1.21	16.40	459	12.35	
1956	1435	13,900	May 13, 1956	36	809	1.60	21.79	832	22.42	
1957	1505	14,100	Apr. 4, 1957	26	455	.901	12.23	465	12.51	
1958	1555	17,000	Aug. 1, 1958	39	651	1.29	17.47	622	16.70	
1959	1625	17,000	Jan. 22, 1959	32	565	1.12	15.17	646	17.33	
1960	1705	6,240	Mar. 29, 1960	37	551	1.09	14.85	-	-	

1100. Yellow Creek near Hammondsville, Ohio

Location.--Lat 40°32'15", long 80°43'35", in sec.29, T.8 N., R.2 W., on right bank 1,000 ft upstream from Lowery Run, 0.9 mile upstream from Bush Creek, and 1.65 miles southwest of Hammondsville, Jefferson County.

Drainage area.--148 sq mi.

Records available.--October 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 692.1 ft above mean sea level (Ohio State Highway Department bench mark).

Average discharge.--20 years (1940-60), 165 cfs.

Extremes.--1940-60: Maximum discharge, 9,580 cfs Jan. 27, 1952 (gage height, 12.17 ft); minimum, 0.9 cfs Jan. 2, 11, 1954, Sept. 21, 1955; minimum gage height, 1.35 ft Sept. 12, 13, 16, 1957.
The highest stage known is reported to have occurred in 1912.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	31.7	179	455	504	533	641	502	176	63.6	78.4	12.1	16.0	265
1952	11.0	54.9	200	745	413	394	416	227	47.6	23.2	102	22.3	221
1953	12.1	26.0	67.2	221	146	198	304	236	105	36.1	8.34	5.14	114
1954	4.92	8.30	12.1	27.6	23.6	255	289	153	111	12.5	20.8	11.2	77.6
1955	214	40.3	199	159	405	534	281	67.6	41.4	17.0	20.1	4.15	164
1956	15.2	90.0	39.5	47.3	649	529	339	538	325	93.2	165	73.0	240
1957	42.9	24.8	181	187	161	229	574	74.3	46.5	17.7	4.39	19.0	129
1958	17.6	60.9	249	262	125	186	221	410	48.6	266	193	96.9	179
1959	38.1	33.2	55.6	346	404	258	299	153	45.1	61.3	32.1	7.53	143
1960	60.6	87.9	216	269	285	266	175	164	141	70.5	42.5	9.85	149

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.25	1.35	3.54	3.93	3.75	4.99	3.78	1.37	0.48	0.61	0.09	0.12	24.26
1952	.09	.41	1.56	5.80	3.01	3.07	3.14	1.76	.36	.18	.79	.17	20.34
1953	.09	.20	.52	1.72	1.03	1.54	2.29	1.83	.79	.28	.06	.04	10.39
1954	.04	.06	.09	.21	.17	1.96	2.18	1.19	.84	.10	.16	.08	7.10
1955	1.67	.40	1.54	1.23	2.85	4.16	2.12	.53	.31	.13	.16	.03	15.03
1956	.12	.68	.31	.37	4.74	4.12	2.56	4.20	2.46	.73	1.28	.55	22.12
1957	.33	.19	1.41	1.45	1.14	1.79	4.33	.58	.35	.14	.03	.14	11.88
1958	.14	.46	1.94	2.04	.68	1.45	1.66	3.19	.37	2.08	1.50	.73	16.44
1959	.30	.25	.43	2.70	2.94	2.01	2.25	1.19	.34	.48	.25	.06	13.20
1960	.47	.66	1.68	2.10	2.08	2.08	1.32	1.28	1.06	.55	.33	.07	13.68

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	215	19.75
1951	1205	4,820	Apr. 29, 1951	5.1	265	1.79	24.26	231	21.18
1952	1235	9,580	Jan. 27, 1952	6.4	221	1.49	20.34	208	19.09
1953	1275	1,800	June 17, 1953	1.5	114	.770	10.39	107	9.77
1954	1335	2,000	June 17, 1954	1.9	77.6	.524	7.10	114	10.42
1955	1385	5,060	Mar. 4, 1955	1.0	164	1.11	15.03	138	12.63
1956	1435	5,420	Feb. 25, 1956	3.7	240	1.62	22.12	249	22.94
1957	1505	4,940	Apr. 5, 1957	1.8	129	.872	11.88	156	12.49
1958	1555	2,540	May 4, 1958	6.5	179	1.21	16.44	162	14.88
1959	1625	4,480	Jan. 22, 1959	3.9	143	.966	13.20	163	15.03
1960	1705	1,970	Mar. 29, 1960	5.0	149	1.01	13.68	-	-

1111.5. Brush Run near Buffalo, Pa.

Location.--Lat 40°11'54", long 80°24'28", on right bank at upstream side of highway bridge, 2.2 miles upstream from Dunkle Run, 3.0 miles upstream from mouth, and 3 $\frac{1}{4}$ miles south-west of Buffalo, Washington County.

Drainage area.--10.3 sq mi.

Records available.--June to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 980 ft (from topographic map).

Extremes.--Maximum discharge June to September 1960, 24 cfs June 29 (gage height, 2.65 ft); no flow for many days.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	-	-	1.64	0.91	0.49	0.33	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	-	-	-	-	-	0.18	0.10	0.05	0.04	-

1115. Short Creek near Dillonvale, Ohio

Location.--Lat 40°11'35", long 80°44'05". in sec.30, T.4 N., R.2 W., on right bank at downstream side of bridge on State Highway 150, 2.1 miles east of Dillonvale, Jefferson County, 2.2 miles downstream from Jug Run, and 2.7 miles upstream from Little Short Creek.

Drainage area.--124 sq mi.

Records available.--October 1941 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 676.1 ft above mean sea level (State of Ohio bench mark). Prior to Oct. 21, 1941, wire-weight gage at same site and datum.

Average discharge.--19 years (1941-60), 126 cfs.

Extremes.--1941-60: Maximum discharge, 6,500 cfs Mar. 6, 1945 (gage height, 8.77 ft); minimum daily, 2.8 cfs Sept. 21, 27, 1947; minimum gage height, -0.03 ft Sept. 29, 30, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	33.4	104	335	375	366	458	296	161	90.2	59.7	20.3	32.4	194
1952	28.9	56.0	172	415	337	245	283	133	71.0	75.5	72.8	33.0	160
1953	21.3	23.2	44.1	140	119	123	161	165	138	37.0	16.4	15.8	83.4
1954	13.8	13.8	17.8	36.1	24.8	118	122	90.9	50.0	17.4	26.2	20.6	46.1
1955	19.5	39.2	99.5	79.9	293	393	120	83.0	49.6	26.5	40.2	20.4	119
1956	29.7	74.9	35.7	34.0	371	397	312	305	181	138	102	65.1	170
1957	37.9	30.8	139	138	150	146	348	96.2	62.3	31.1	15.9	21.8	101
1958	22.3	42.3	117	127	86.7	119	111	261	74.8	86.0	112	63.2	102
1959	37.4	33.2	43.7	254	298	186	207	193	76.1	58.6	45.7	18.1	120
1960	47.2	53.1	122	175	196	161	141	107	52.2	32.7	29.5	24.1	94.8

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.31	0.94	3.11	3.48	3.07	4.25	2.67	1.50	0.81	0.55	0.19	0.29	21.17
1952	.27	.50	1.60	3.86	2.93	2.28	2.54	1.23	.64	.70	.68	.30	17.53
1953	.20	.21	.41	1.30	1.00	1.14	1.45	1.53	1.24	.34	.15	.14	9.11
1954	.13	.12	.17	.34	.21	1.10	1.10	.85	.45	.16	.24	.19	5.06
1955	1.81	.35	.92	.74	2.46	3.66	1.08	.77	.45	.25	.37	.18	13.04
1956	.28	.67	.33	.32	3.22	3.69	2.81	2.84	1.63	1.28	.95	.59	18.61
1957	.35	.28	1.29	1.28	1.26	1.36	3.14	.89	.56	.29	.15	.20	11.05
1958	.21	.38	1.09	1.18	.73	1.11	1.00	2.42	.67	.80	1.04	.57	11.20
1959	.35	.30	.41	2.36	2.50	1.73	1.86	1.80	.68	.55	.43	.16	13.13
1960	.44	.48	1.13	1.63	1.70	1.50	1.27	.99	.47	.30	.27	.22	10.40

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	189	20.70	
1951	1205	4,350	Jan. 15, 1951	16	194	1.56	21.17	175	19.18	
1952	1235	5,120	Jan. 27, 1952	18	160	1.29	17.53	146	15.98	
1953	1275	2,420	June 17, 1953	8.2	83.4	.673	9.11	79.8	8.71	
1954	1335	690	Mar. 29, 1954	9.2	46.1	.372	5.06	70.5	7.72	
1955	1385	5,540	Oct. 16, 1954	8.0	119	.960	13.04	103	11.24	
1956	1435	2,960	Feb. 25, 1956	14	170	1.37	18.61	175	19.25	
1957	1505	2,770	Apr. 4, 1957	12	101	.815	11.05	96.6	10.81	
1958	1555	2,160	May 4, 1958	15	102	.823	11.20	96.6	10.58	
1959	1625	3,930	Jan. 21, 1959	14	120	.968	13.13	129	14.12	
1960	1705	1,080	Feb. 11, 1960	19	94.8	.765	10.40	-	-	

1120. Wheeling Creek at Elm Grove, W. Va.

Location.--Lat 40°02'40", long 80°39'40", on right bank at highway bridge at Elm Grove, Ohio County, 500 ft downstream from Little Wheeling Creek.

Drainage area.--282 sq mi.

Records available.--November 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 667.59 ft above mean sea level, datum of 1929.

Average discharge.--20 years (1940-60), 323 cfs.

Extremes.--1940-60: Maximum discharge, 22,100 cfs Dec. 30, 1942 (gage height, 13.67 ft), from rating curve extended above 8,500 cfs on basis of slope-area measurements at gage heights 13.2 and 13.67 ft; minimum, 0.3 cfs Sept. 22, 1949; minimum gage height, 0.63 ft Aug. 31, 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	75.4	341	991	942	994	946	832	324	229	246	6.48	7.05	492
1952	4.18	90.4	388	884	561	622	574	554	91.4	61.4	18.3	3.58	321
1953	5.10	20.6	110	588	324	456	576	360	30.5	18.3	4.18	5.55	208
1954	1.43	4.08	27.0	146	111	336	309	254	92.7	10.3	38.0	13.3	112
1955	560	65.1	583	241	778	1,093	261	313	252	46.0	122	18.2	326
1956	53.9	172	83.0	259	1,250	1,159	762	795	278	885	651	136	537
1957	43.7	41.2	546	488	590	416	1,255	124	23.7	11.1	2.06	1.66	293
1958	4.42	46.4	585	487	341	450	426	939	103	390	152	124	339
1959	51.7	71.3	229	1,008	967	401	395	450	140	20.0	26.1	16.4	309
1960	46.8	178	376	465	592	618	411	383	59.3	36.3	20.1	93.4	272

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.31	1.35	4.05	3.85	3.67	3.87	3.29	1.32	0.91	1.01	0.03	0.03	23.69
1952	.02	.36	1.58	5.61	2.15	2.54	2.27	2.27	.36	.25	.07	.01	15.49
1953	.01	.08	.45	2.40	1.20	1.87	2.28	1.47	.12	.07	.02	.02	9.99
1954	.006	.02	.11	.60	.41	1.37	1.22	1.04	.37	.04	.16	.05	5.40
1955	1.47	.26	1.57	.98	2.87	4.47	1.03	1.28	1.00	.19	.50	.07	15.69
1956	.22	.68	.34	1.06	4.71	4.74	3.01	3.25	1.10	3.62	2.66	.54	25.93
1957	.18	.16	2.24	1.99	2.18	1.70	4.96	.51	.09	.05	.008	.007	14.08
1958	.02	.18	2.39	1.99	1.26	1.84	1.69	3.84	.41	1.60	.62	.49	16.33
1959	.21	.28	.94	4.12	3.57	1.64	1.56	1.76	.55	.08	.11	.06	14.88
1960	.19	.70	1.54	1.90	2.26	2.53	1.63	1.56	.23	.15	.08	.37	13.14

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	1205	-	-	-	-	-	-	442	21.26	
1951	1205	15,900	Jan. 15, 1951	1.0	492	1.74	23.69	414	19.94	
1952	1235	10,000	Jan. 27, 1952	.9	321	1.14	15.49	292	14.07	
1953	1275	6,740	May 7, 1953	.7	208	.738	9.99	199	9.99	
1954	1335	3,240	Apr. 17, 1954	.6	112	.597	5.40	178	8.56	
1955	1385	11,600	Oct. 16, 1954	2.0	326	1.16	15.69	283	13.63	
1956	1435	9,600	July 27, 1956	7.3	537	1.90	25.93	565	27.27	
1957	1505	7,360	Apr. 18, 1957	.5	293	1.04	14.08	293	13.09	
1958	1565	6,340	May 4, 1958	.6	339	1.20	16.33	315	15.17	
1959	1625	11,600	Feb. 10, 1959	2.0	309	1.10	14.88	330	15.88	
1960	1705	4,240	Feb. 11, 1960	5.0	272	.965	13.14	-	-	

OHIO RIVER MAIN STEM

1135. Ohio River at Bellaire, Ohio

Location.--Lat 39°59'05", long 80°44'20", in sec.28, T.2 N., R.2 W., on right bank 1.9 miles downstream from Baltimore & Ohio Railroad bridge at Bellaire and at mile 96.4.

Drainage area.--25,170 sq mi, approximately.

Records available.--March 1939 to September 1958, fragmentary prior to April 1941.

Gage.--Water-stage recorder. Datum of gage is 608.0 ft above mean sea level, unadjusted. Prior to Mar. 15, 1941, staff gages near present site at same datum. Prior to Nov. 18, 1940, auxiliary staff gage and since Nov. 18, 1940, auxiliary water-stage recorder at site 4.0 miles downstream from base gage at same datum.

Average discharge.--17 years (1941-58), 40,850 cfs.

Extremes.--1939-58: Maximum discharge, 412,000 cfs Dec. 31, 1942; maximum gage height, 48.99 ft Dec. 31, 1942; minimum discharge not determined.

Remarks.--Flow partly regulated by locks, dams, and reservoirs above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	15,980	56,180	92,590	98,210	104,800	86,870	89,050	39,020	41,990	24,070	6,701	6,178	54,790
1952	4,839	22,970	51,240	84,000	72,810	78,520	67,000	68,380	15,750	7,363	7,794	5,655	44,720
1953	4,635	10,160	26,080	51,730	48,890	64,830	62,740	64,760	36,870	6,880	8,748	6,378	32,800
1954	4,343	4,970	13,720	28,190	33,490	69,090	65,600	35,680	20,450	8,868	16,710	8,512	25,750
1955	64,240	23,200	50,540	57,550	71,060	24,500	47,310	21,170	19,690	9,404	14,930	5,731	42,410
1956	16,640	36,160	25,190	14,440	107,800	113,300	91,430	90,050	51,070	42,360	60,540	28,770	56,250
1957	12,570	14,630	62,120	57,950	66,880	49,840	107,300	27,800	14,770	13,840	4,801	4,985	36,220
1958	6,290	10,200	55,030	35,060	26,140	55,410	65,580	73,880	22,940	48,460	44,390	21,510	38,940
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	54,040	-	-
1951	1205	311,000	Dec. 5, 1950	3,760	54,790	-	-	47,610	-	-
1952	1235	344,000	Jan. 28, 1952	3,250	44,720	-	-	41,520	-	-
1953	1275	138,000	Mar. 26, 1953	3,250	32,800	-	-	31,300	-	-
1954	1335	160,000	Mar. 3, 1954	3,250	25,750	-	-	35,460	-	-
1955	1385	397,000	Oct. 16, 1954	4,020	42,410	-	-	37,280	-	-
1956	1435	281,000	Mar. 10, 1956	4,750	56,250	-	-	57,270	-	-
1957	1505	194,000	Apr. 5, 1957	2,930	36,220	-	-	34,720	-	-
1958	1555	183,000	May 9, 1958	-	38,940	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-

CAPTINA CREEK BASIN

1140. Captina Creek at Armstrongs Mills, Ohio

Location.--Lat 39°54'32", long 80°55'29", in NE¹/₄ sec.10, T.5 N., R.4 W., on left bank at downstream side of highway bridge half a mile east of Armstrongs Mills, Belmont County and two-thirds of a mile downstream from Anderson Run.

Drainage area.--135 sq mi.

Records available.--August 1926 to September 1935, October 1958 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 739.7 ft above mean sea level (unadjusted). Prior to Oct. 1935, chain gage at same site at datum 1.0 ft higher.

Average discharge.--11 years (1926-35, 1958-60), 151 cfs.

Extremes.--1926-35, 1958-60: Maximum discharge, 10,500 cfs Aug. 7, 1935 (gage height, 14.40 ft, present datum), from rating curve extended above 1,700 cfs by logarithmic plotting; no flow at times during 1929-30, 1932, 1934, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	28.9	50.4	142	494	426	224	192	154	51.9	30.0	28.9	1.59	151
1960	17.1	58.5	173	206	275	235	134	150	25.1	12.4	4.35	5.25	108

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0.25	0.42	1.21	4.22	3.29	1.91	1.58	1.31	0.43	0.26	0.25	0.01	15.14
1960	.15	.48	1.48	1.76	2.20	2.01	1.11	1.28	.21	.11	.04	.04	10.87

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1959	1625	8,910	Jan. 21, 1959	0	151	1.12	15.14	153	-	15.37
1960	1705	3,320	Feb. 10, 1960	.6	108	.800	10.87	-	-	-

1145. Middle Island Creek at Little, W. Va.

Location.--Lat 39°28'30", long 80°59'50" (revised), on right bank at downstream side of highway bridge at Little, Tyler County, 0.1 mile upstream from Stewarts Run and 5 miles west of Middlebourne.

Drainage area.--458 sq mi.

Records available.--May 1915 to September 1922 (gage height only, October 1916 to September 1922), October 1928 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 631.32 ft above mean sea level, adjustment of 1912. Prior to Apr. 25, 1929, staff gage, Apr. 25, 1929, to Nov. 30, 1939, chain gage, and Dec. 1, 1939, to July 10, 1947, wire-weight gage, at same site and datum.

Average discharge.--32 years (1928-60), 616 cfs.

Extremes.--1915-22, 1928-60: Maximum discharge, 25,000 cfs June 26, 1950 (gage height, 28.0 ft, from high-water mark in gage well); no flow during part of 1922 and Sept. 1 to Nov. 4, Nov. 7-10, 1930.

Maximum stage known, about 33.5 ft in August 1875.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	69.4	589	1,740	1,649	1,892	1,688	1,289	495	442	230	19.2	22.3	861
1952	2.26	366	1,171	1,896	923	1,297	954	989	66.4	75.7	95.2	9.47	656
1953	5.01	17.2	238	1,352	891	1,048	865	773	110	125	18.3	5.84	453
1954	1.18	1.37	42.1	363	184	986	676	394	139	54.0	618	57.1	295
1955	768	231	1,232	580	2,279	2,140	1,012	257	110	80.9	55.5	4.76	721
1956	34.0	168	134	613	2,200	2,143	973	1,078	607	486	800	227	784
1957	62.3	62.9	1,629	1,247	1,541	674	1,215	168	27.6	13.1	1.74	6.27	548
1958	69.0	279	1,703	1,061	1,028	582	1,057	1,298	156	1,562	498	218	794
1959	70.8	228	397	1,480	1,086	473	850	367	139	121	98.9	12.0	440
1960	36.3	310	739	1,126	1,291	861	601	1,029	89.8	66.4	686	181	584

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.17	1.43	4.38	4.15	4.30	4.25	3.14	1.25	1.76	0.58	0.05	0.05	25.51
1952	.01	.89	2.95	4.77	2.17	3.27	2.32	2.49	.16	.19	.24	.02	19.48
1953	.01	.04	.60	3.40	2.02	2.64	2.11	1.94	.27	.31	.05	.01	13.40
1954	.003	.003	.11	.91	.42	2.48	1.65	.99	.34	.14	1.56	.14	8.75
1955	1.93	.56	3.10	1.46	5.18	5.39	2.47	.65	.27	.20	.14	.01	21.36
1956	.09	.41	.34	1.54	5.18	5.39	2.37	2.71	1.48	1.22	2.01	.55	23.29
1957	.16	.15	4.10	3.14	3.50	1.70	2.96	.42	.07	.03	.004	.02	16.25
1958	.17	.68	4.29	2.67	2.34	1.47	2.58	3.27	.38	3.93	1.25	.53	23.56
1959	.18	.56	1.00	3.73	2.47	1.19	2.07	.92	.34	.30	.25	.03	13.04
1960	.09	.76	1.86	2.84	3.04	2.17	1.46	2.59	.22	.17	1.73	.44	17.37

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	936	27.72
1951	1205	14,500	Feb. 2, 1951	3.6	861	1.88	25.51	789	23.38
1952	1235	10,500	Jan. 27, 1952	.2	656	1.43	19.48	548	16.28
1953	1275	8,830	May 7, 1953	.4	453	.989	13.40	454	12.87
1954	1355	6,800	Mar. 1, 1954	.4	295	.644	8.75	480	14.22
1955	1385	13,000	Feb. 7, 1955	.6	721	1.57	21.36	560	16.61
1956	1435	11,700	Mar. 8, 1956	1.2	784	1.71	23.29	904	26.86
1957	1505	14,700	Dec. 15, 1956	.1	548	1.20	16.25	573	16.98
1958	1555	11,100	May 6, 1958	4.3	794	1.73	23.56	680	20.16
1959	1625	8,720	Jan. 16, 1959	.7	440	.961	13.04	473	14.01
1960	1705	10,400	Jan. 16, 1960	1.0	584	1.28	17.37	-	-

OHIO RIVER MAIN STEM

1150. Ohio River at St. Marys, W. Va.

Location.--Lat 39°23'25", long 81°12'30", on left bank at downstream side of bridge on U.S. Highway 50 (alternate) at St. Marys, Pleasants County, 0.9 mile downstream from Middle Island Creek at mile 155.0.

Drainage area.--26,850 sq mi, approximately.

Records available.--January 1938 to September 1960 (fragmentary prior to November 1939 and high water only from October 1952). Gage-height records collected at same site since 1904 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 577.30 ft above mean sea level, Sandy Hook datum. Prior to Nov. 29, 1939, wire-weight gage at same site and datum. Auxiliary water-stage recorder on left bank 1.5 miles upstream from lock and dam 17 and 11 miles downstream from base gage. Prior to Feb. 22, 1951, auxiliary water-stage recorder or lock gage at lock 17.

Extremes.--1938-60: Maximum discharge, 421,000 cfs Jan. 1, 1943; maximum gage height, 46.67 ft Jan. 1, 1943; minimum daily discharge not determined; minimum gage height recorded, 3.45 ft Jan. 14, 1940 (dam down at lock 17).
Maximum stage known since at least 1884, 54.2 ft in March 1913.

Remarks.--Flow partly regulated by locks, dams and reservoirs upstream from station. Discharge less than 15,000 cfs not compiled since 1952.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	16,670	57,940	98,270	100,400	106,600	88,940	91,290	42,770	44,770	25,350	6,785	8,298	56,850
1952	4,898	24,100	53,630	134,900	77,730	78,920	68,070	69,370	17,340	7,202	8,134	5,885	45,860
1953	-	-	-	55,120	51,070	65,250	84,470	65,230	-	-	-	-	-
1954	-	-	-	-	-	67,770	64,090	-	-	-	-	-	-
1955	-	24,970	51,660	61,930	76,290	127,800	48,080	-	-	-	-	-	-
1956	-	-	-	-	118,800	122,000	94,860	89,910	53,300	43,510	61,610	29,680	-
1957	-	-	67,230	80,310	72,750	51,360	106,600	29,300	-	-	-	-	-
1958	-	-	-	37,080	-	58,700	69,300	-	-	46,870	-	-	-
1959	-	-	27,930	82,850	91,550	67,600	64,860	46,540	-	-	-	-	-
1960	-	36,850	71,760	75,400	60,770	37,250	92,450	57,460	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	55,630	28.25
1951	1205	292,000	Dec. 6, 1950	-	56,850	2.12	28.75	49,290	24.92
1952	1235	321,000	Jan. 29, 1952	-	45,880	1.71	23.25	-	-
1953	1275	136,000	Mar. 27, 1953	-	-	-	-	-	-
1954	1335	152,000	Mar. 4, 5, 1954	-	-	-	-	-	-
1955	1385	314,000	Oct. 18, 1954	-	-	-	-	-	-
1956	1435	263,000	Mar. 10, 1955	-	-	-	-	-	-
1957	1505	195,000	Apr. 6, 1957	-	-	-	-	-	-
1958	1555	186,000	May 9, 1958	-	-	-	-	-	-
1959	1625	302,000	Jan. 24, 1959	-	-	-	-	-	-
1960	1705	275,000	Apr. 2, 1960	-	-	-	-	-	-

Note.--Figures of monthly discharge in cubic feet per second per square mile and runoff in inches previously published in water-supply papers may be subject to considerable error because of regulation by several reservoirs upstream. Those figures should not be used.

LITTLE MUSKINGUM RIVER BASIN

1154. Little Muskingum River at Bloomfield, Ohio

Location.--Lat 39°33'50", long 81°12'10", in sec.22, T.3 N., R.6 W., on left bank at upstream side of bridge on State Highway 260 at Bloomfield, Washington County, 2.2 miles downstream from Wilson Run.

Drainage area.--210 sq mi.

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 646.17 ft above mean sea level, unadjusted.

Extremes.--1958-60: Maximum discharge, 9,700 cfs Jan. 22, 1959 (gage height, 24.16 ft); minimum, 0.4 cfs Sept. 30, 1959; minimum gage height, 3.23 ft Sept. 8, 1960.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	29.0	58.0	179	856	742	309	292	231	106	129	142	2.65	254
1960	18.0	166	340	366	526	386	192	210	27.9	32.5	25.2	11.2	191

LITTLE MUSKINGUM RIVER BASIN

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Monthly and annual discharge, in inches, of Little Muskingum River at Bloomfield, Ohio

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0.16	0.31	0.98	4.70	3.68	1.70	1.55	1.27	0.56	0.71	0.78	0.01	18.41
1960	.10	.88	1.87	2.01	2.70	2.12	1.02	1.15	.15	.18	.14	.08	12.38

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1959	1705	9,700	Jan. 22, 1959	0.6	254	1.21	16.41	281	18.13
1960	1705	5,150	Feb. 11, 1960	1.1	191	.910	12.38	-	-

MUSKINGUM RIVER BASIN

1160. Tuscarawas River at Clinton, Ohio

Location.--Lat 40°55'39", long 81°37'59", in NW $\frac{1}{4}$ sec.32, T.14 N., R.10 W., on right bank 100 ft downstream from bridge on U.S. Highway 21 at Clinton, Summit County, and 1 mile upstream from Chippewa Creek.

Drainage area.--165 sq mi.

Records available.--May 1926 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 933.28 ft above mean sea level, adjustment of 1912. May 9, 1926, to July 24, 1930, chain gage at site 100 ft upstream at datum 4.00 ft higher prior to Nov. 18, 1928, and at present datum thereafter.

Average discharge.--31 years (1929-60), 140 cfs.

Extremes.--1926-60: Maximum discharge, 2,700 cfs Aug. 8, 1935; maximum gage height, 15.50 ft Jan. 22, 1959; minimum, 10 cfs Nov. 6, 1928.
Flood in March 1913 reached a stage of 22.2 ft.

Remarks.--Ohio Canal diverts small amount of water from river at Portage Lakes, 3 miles south of Akron; part of diverted water flows into Cuyahoga River basin. Flow slightly regulated at headwaters and supplemented at times by operation of Nimisila Reservoir (capacity, 6,500 acre-ft) since 1939.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	†61.1	†67.1	202	270	417	414	290	157	97.1	79.3	62.8	67.9	181
1952	65.0	91.5	215	606	327	426	290	109	71.6	88.9	63.5	66.0	202
1953	63.0	59.9	63.8	119	95.3	105	142	194	114	72.1	56.4	54.0	94.9
1954	50.4	41.4	51.7	56.6	64.8	209	288	114	71.2	50.7	44.2	39.5	90.1
1955	203	69.1	80.2	127	191	486	170	90.8	74.4	49.6	45.5	48.5	136
1956	76.1	230	92.5	75.8	400	371	197	388	296	97.5	122	81.8	201
1957	66.9	70.6	85.2	133	139	120	526	165	194	218	64.4	89.1	155
1958	75.7	84.1	238	131	130	123	136	173	86.3	212	364	112	156
1959	70.0	85.3	80.0	408	495	329	261	230	130	150	120	94.2	203
1960	188	158	246	275	237	214	245	134	134	110	80.4	72.4	174

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	1,240	Feb. 23, 1951	50	181	-	-	184	-
1952	1235	1,960	Jan. 28, 1952	50	202	-	-	186	-
1953	1275	820	May 23, 1953	44	94.9	-	-	91.3	-
1954	1335	795	Apr. 28, 1954	34	90.1	-	-	108	-
1955	1385	1,060	Oct. 16, 1954	27	136	-	-	140	-
1956	1435	1,240	(b)	56	201	-	-	187	-
1957	1505	1,450	Apr. 6, 1957	54	155	-	-	170	-
1958	1555	1,560	Aug. 2, 1958	62	156	-	-	142	-
1959	1625	2,120	Jan. 22, 1959	56	203	-	-	233	-
1960	1705	1,050	Mar. 31, 1960	64	174	-	-	-	-

Note.--Figures for discharge in cubic feet per second per square mile and runoff in inches published in WSP 1205, 1235, 1275, 1335 have been found in error because of diversion by Ohio Canal; these figures are not published herein and should not be used.
b Nov. 17, 1955, Feb. 27, May 27, 1956.

1162. Chippewa Creek at Easton, Ohio

Location.--Lat 40°56'45", long 81°44'35", in SE $\frac{1}{4}$ sec.17, T.18 N., R.11 W., on left bank at downstream side of bridge on State Highway 5, half a mile southwest of Easton, Wayne County, and $\frac{1}{2}$ miles upstream from Red Run.

Drainage area.--146 sq mi.

Records available.--January to September 1960.

Gage.--Water-stage recorder. Datum of gage is 939.6 ft above mean sea level. Prior to June 10, 1960, wire-weight gage at same site and datum.

Extremes.--1960: Maximum discharge, 1,420 cfs Mar. 31 (gage height, 11.31 ft); minimum, 9.4 cfs Sept. 26 (gage height, 0.94 ft).

Flood of Jan. 21, 1959, reached a stage of 14.17 ft (discharge, 10,100 cfs, on basis of contracted-opening measurement of peak flow).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	313	226	219	229	87.7	103	47.5	28.4	15.6	-

Monthly and annual discharge, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	2.47	1.67	1.73	1.75	0.69	0.79	0.37	0.22	0.12	-

1170. Tuscarawas River at Massillon, Ohio

Location.--Lat 40°46'17", long 81°31'25", in sec.20, T.10 N., R.9 W., on left bank at sewage-treatment works, $\frac{1}{2}$ miles south of Massillon, Stark County, and 3 miles downstream from Newman Creek.

Drainage area.--526 sq mi.

Records available.--October 1937 to September 1960. Prior to April 1938 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 916.00 ft above mean sea level, adjustment of 1912. Prior to Aug. 19, 1944, staff gage at same site and datum.

Average discharge.--23 years (1937-60), 427 cfs.

Extremes.--1937-60: Maximum discharge, 7,220 cfs Jan. 22, 1959 (gage height, 13.46 ft); minimum, 54 cfs July 25, 1954; minimum gage height, 0.18 ft July 25, 26, 1954.

Remarks.--Ohio Canal diverts water from river at Portage Lakes, 3 miles south of Akron; part of diverted water flows into Cuyahoga River basin. Flow slightly regulated by Nimisila Reservoir since 1939. Records of chemical analyses for the period October 1957 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	117	169	627	903	1,363	1,216	829	439	219	208	121	177	527
1952	129	302	746	1,989	992	1,101	798	271	146	182	122	135	576
1953	122	124	153	405	292	353	437	664	303	153	116	118	268
1954	89.6	87.8	108	151	182	698	924	332	139	78.1	84.1	69.9	245
1955	587	151	217	405	685	1,519	468	221	160	118	98.5	94.5	393
1956	137	517	183	176	1,399	1,184	564	1,292	914	227	365	182	591
1957	129	139	221	376	437	379	1,587	456	501	637	134	210	432
1958	141	182	627	375	306	380	427	576	188	635	1,273	300	454
1959	172	218	217	1,465	1,659	984	652	591	274	308	212	200	573
1960	512	499	899	806	696	640	766	356	381	257	171	143	510

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	563	-
1951	1205	3,550	Feb. 22, 1951	102	527	-	-	550	-
1952	1235	5,420	Jan. 28, 1952	89	576	-	-	511	-
1953	1275	2,940	May 24, 1953	84	268	-	-	259	-
1954	1335	2,320	Apr. 29, 1954	58	245	-	-	302	-
1955	1385	3,140	Mar. 23, 1955	62	393	-	-	382	-
1956	1435	4,080	Feb. 26, 1956	102	591	-	-	563	-
1957	1505	4,000	Apr. 6, 1957	112	432	-	-	471	-
1958	1558	5,580	Aug. 1, 1958	85	454	-	-	425	-
1959	1625	7,220	Jan. 22, 1959	132	573	-	-	683	-
1960	1705	3,350	Mar. 30, 1960	124	510	-	-	-	-

Note.--Figures for discharge in cubic feet per second per square mile and runoff in inches published in WSP 1205, 1235, 1275, 1335, 1385, 1435, 1505 may be in error because of diversion by Ohio Canal; those figures are not published herein and should not be used.

1175. Sandy Creek at Waynesburg, Ohio

Location.--Lat 40°40'22", long 81°15'38", in sec.21, T.17 N., R.7 W., on upstream side of left pier of bridge on U.S. Highway 43, 800 ft downstream from Little Sandy Creek, a quarter of a mile north of Waynesburg, Stark County, and half a mile upstream from Indian Run.

Drainage area.--254 sq mi.

Records available.--October 1938 to September 1960. Prior to January 1939 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 955.00 ft above mean sea level, adjustment of 1912.

Average discharge.--22 years (1938-60), 266 cfs.

Extremes.--1938-60: Maximum discharge, 15,000 cfs Jan. 22, 1959 (gage height, 10.05 ft), from rating curve extended above 4,700 cfs on basis of slope-area measurement of peak flow; minimum, 14 cfs Sept. 8, 1952.

Revisions.--The momentary maximum discharges for the water years 1940, 1943, 1947, published in WSP 1305, have been revised as shown in the following table.

Water year	Momentary maximum	
	Discharge	Date
1940	6,100	Mar. 4, 1940
1943	5,700	Dec. 30, 1942
1947	4,750	June 8, 1947

Remarks.--Records of chemical analyses for the period October 1957 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	53.5	248	671	821	898	919	673	285	95.2	156	43.0	40.1	406
1952	33.5	156	439	1,111	703	543	599	305	85.7	46.5	34.4	34.9	340
1953	26.3	41.5	65.5	279	224	273	432	426	212	114	63.1	29.9	182
1954	24.0	25.0	29.1	55.1	60.1	486	555	246	192	36.8	30.2	27.3	141
1955	400	102	254	323	582	803	383	137	92.6	57.5	40.9	25.3	265
1956	34.0	119	63.9	66.7	987	765	441	920	546	201	213	125	371
1957	64.2	53.3	179	267	312	320	867	333	186	148	43.0	37.7	235
1958	39.1	57.1	420	303	202	274	364	553	179	548	462	232	306
1959	86.1	75.0	90.8	983	764	446	398	304	219	125	86.3	51.2	301
1960	230	271	491	558	408	422	315	231	215	161	84.3	44.2	286

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.24	1.09	3.04	3.72	3.69	4.17	2.96	1.29	0.42	0.72	0.19	0.18	21.71
1952	.15	.68	1.99	5.04	2.99	2.47	2.63	1.36	.38	.21	.16	.15	18.23
1953	.12	.18	.30	1.27	.92	1.23	1.90	1.94	.93	.52	.29	.13	9.73
1954	.11	.11	.13	.25	.25	2.20	2.43	1.13	.84	.17	.14	.12	7.88
1955	1.81	.45	1.15	1.46	2.38	3.64	1.68	.62	.41	.26	.19	.11	14.16
1956	.15	.52	.29	.30	4.20	3.47	1.94	4.17	2.40	.91	.97	.55	19.67
1957	.29	.23	.81	1.21	1.28	1.45	3.80	1.51	.82	.67	.19	.17	12.43
1958	.18	.25	1.90	1.37	.83	1.24	1.60	2.51	.79	2.49	2.19	1.02	16.37
1959	.39	.32	.41	4.46	3.22	2.03	1.75	1.38	.96	.57	.39	.23	16.11
1960	1.04	1.19	2.22	2.54	1.74	1.91	1.38	1.05	.94	.73	.36	.19	15.31

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	368	19.54
1951	1205	4,250	Dec. 4, 1950	28	406	1.60	21.71	377	20.16
1952	1555, 1235	6,100	Jan. 27, 1952	19	340	1.34	18.23	299	16.01
1953	1275	2,140	May 23, 1953	19	182	.717	9.73	177	9.46
1954	1335	1,740	Apr. 28, 1954	16	141	.555	7.88	205	10.94
1955	1385	3,560	Oct. 16, 1954	20	265	1.04	14.16	220	11.71
1956	1455	5,050	Feb. 26, 1956	23	371	1.46	19.87	378	20.24
1957	1505	4,080	Apr. 5, 1957	32	233	.917	12.43	252	13.43
1958	1555	5,380	Aug. 1, 1958	31	308	1.20	16.37	284	15.16
1959	1625	15,000	Jan. 22, 1959	36	301	1.18	16.11	364	19.44
1960	1705	2,720	Mar. 30, 1960	33	286	1.13	15.31	-	-

1180. Middle Branch Nimishillen Creek at Canton, Ohio

Location.--Lat 40°50'30", long 81°21'20", in N½ sec.27, T.11 N., R.8 W., on right bank at downstream side of bridge on Martindale Road, 2.4 miles upstream from mouth and 3.1 miles northeast of Canton, Stark County.

Drainage area.--44.2 sq mi.

Records available.--September 1941 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,046.6 ft above mean sea level, adjustment of 1912.

Average discharge.--19 years (1941-60), 34.3 cfs.

Extremes.--1941-60: Maximum discharge, 2,470 cfs Jan. 22, 1959 (gage height, 6.50 ft), from rating curve extended above 1,600 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.2 cfs Nov. 9, 1944.

Remarks.--Part of municipal water supply for city of Canton is pumped from its northeast well field; a large portion of pumpage is believed to be diverted indirectly from creek as recharge for aquifer supplying well field. At times low flow regulated by small pools above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7.54	14.0	69.1	85.6	127	142	90.8	46.7	22.3	19.9	7.65	10.9	53.3
1952	7.86	31.7	69.0	170	104	90.6	68.7	23.0	10.2	6.89	5.16	7.21	49.5
1953	3.65	6.81	12.6	41.3	20.2	29.8	44.7	54.5	24.7	10.8	3.26	1.51	21.2
1954	1.71	2.42	4.08	12.3	13.0	50.1	64.4	22.6	12.3	3.16	3.89	1.92	16.0
1955	29.7	9.06	24.4	29.1	55.8	96.0	52.7	16.1	10.8	4.55	2.74	2.06	27.6
1956	3.98	15.2	9.23	9.77	99.7	82.7	46.1	129	89.5	41.5	26.9	14.4	47.1
1957	7.83	7.38	18.0	32.4	31.8	24.3	80.0	25.8	26.0	44.5	4.83	9.72	26.0
1958	6.30	8.14	42.1	29.6	22.2	25.7	32.4	33.7	14.0	92.3	108	36.3	37.8
1959	14.2	16.0	14.1	149	120	70.2	46.6	52.2	28.4	23.8	17.5	8.15	46.4
1960	37.3	40.7	68.1	68.5	49.4	54.9	38.8	29.4	28.0	14.3	10.5	5.46	37.1

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	53.9	-
1951	1205	885	Dec. 3, 1950	4.6	53.3	-	-	54.7	-
1952	1235	1,180	Jan. 27, 1952	2.7	49.5	-	-	42.3	-
1953	1275	710	May 23, 1953	.8	21.2	-	-	19.9	-
1954	1335	302	Apr. 17, 1954	.8	16.0	-	-	20.6	-
1955	1385	368	Mar. 11, 1955	.8	27.6	-	-	24.6	-
1956	1435	865	May 28, 1956	1.6	47.1	-	-	47.6	-
1957	1505	635	July 9, 1957	2.6	26.0	-	-	27.9	-
1958	1555	1,920	Aug. 1, 1958	4.5	37.8	-	-	36.8	-
1959	1625	2,470	Jan. 22, 1959	5.8	46.4	-	-	54.9	-
1960	1705	592	Dec. 13, 1959	4.1	37.1	-	-	-	-

1185. Nimishillen Creek at North Industry, Ohio

Location.--Lat 40°44'01", long 81°21'08", in SW $\frac{1}{4}$ sec.35, T.10 N., R.8 W., on left bank just downstream from railroad bridge, 1 mile southeast of North Industry, Stark County, and 3 miles downstream from Sherrick Run.

Drainage area.--175 sq mi.

Records available.--October 1921 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 970.77 ft above mean sea level, adjustment of 1912. Prior to Dec. 13, 1923, chain gage at site 1 mile upstream at different datum.

Average discharge.--39 years (1921-60), 167 cfs.

Extremes.--1921-60: Maximum discharge, 8,600 cfs Jan. 21, 1959 (gage height, 11.29 ft), from rating curve extended above 6,500 cfs on basis of slope-area measurement of peak flow; minimum, 3.6 cfs Sept. 2, 1934.

Remarks.--Records of chemical analyses for the period October 1957 to September 1958 are published in reports of the Geological Survey.

Revisions.--Some periods for the water years 1929, 1935, 1937, 1940 and 1950 were revised in WSP 1555; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches	Momentary maximum		Minimum day
				Discharge	Date	
February 1929.....	291	1.66	1.73	-	-	58
Water year 1928-29..	177	1.01	13.75	6,660	Feb. 26, 1929	40
Calendar year 1929..	212	1.21	16.43	-	-	40
August 1935.....	428	2.45	2.82	-	-	63
Water year 1934-35..	132	.754	10.26	6,110	Aug. 7, 1935	25
Calendar year 1935..	152	.869	11.79	-	-	34
Water year 1936-37..	-	-	-	5,700	Jan. 25, 1937	-
Water year 1939-40..	-	-	-	5,700	Mar. 4, 1940	-
Water year 1949-50..	-	-	-	5,300	June 25, 1950	-

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	55.3	93.2	272	346	466	519	367	229	146	158	80.7	96.2	234
1952	71.9	137	289	573	374	329	287	164	83.0	84.4	68.1	82.8	210
1953	56.9	66.1	89.2	230	145	188	235	271	187	110	91.4	62.6	144
1954	51.7	54.1	60.9	93.5	97.4	286	352	166	126	62.6	62.9	50.8	122
1955	201	83.6	144	165	290	404	234	117	94.4	68.0	68.2	60.9	160
1956	72.1	114	74.3	84.9	436	372	234	539	384	190	165	115	231
1957	79.9	74.8	114	163	170	152	447	170	193	160	71.5	82.4	156
1958	67.6	75.0	207	169	138	155	223	251	129	483	366	167	204
1959	101	108	114	555	491	325	278	240	171	154	143	104	231
1960	224	223	330	335	248	260	203	170	173	161	111	69.2	209

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.35	0.59	1.79	2.28	2.77	3.42	2.34	1.51	0.93	1.04	0.53	0.61	18.16
1952	.47	.87	1.78	5.77	2.31	2.17	1.85	1.08	.55	.56	.45	.53	16.35
1953	.37	.42	.59	1.51	.86	1.23	1.48	1.79	1.19	.73	.60	.40	11.17
1954	.34	.34	.40	.62	.58	1.88	2.24	1.09	.80	.41	.41	.32	9.43
1955	1.33	.53	.95	1.09	1.73	2.66	1.50	.77	.60	.45	.45	.39	12.45
1956	.48	.73	.49	.56	2.68	2.46	1.50	3.55	2.44	1.26	1.09	.73	17.97
1957	.53	.48	.75	1.07	1.01	1.00	2.84	1.12	1.23	1.05	.47	.53	12.08
1958	.44	.48	1.36	1.11	.82	1.02	1.42	1.65	.82	3.18	2.41	1.06	15.77
1959	.67	.69	1.75	3.66	2.93	2.14	1.77	1.58	1.09	1.01	.94	.66	17.89
1960	1.46	1.42	2.18	2.20	1.53	1.72	1.29	1.12	1.10	1.06	.73	.44	11.27

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	229	17.77
1951	1205	2,440	(b)	42	234	1.34	18.16	239	18.55
1952	1235	4,700	Jan. 27, 1952	40	210	1.20	16.35	188	14.61
1953	1275	5,150	May 23, 1953	43	144	.823	11.17	140	10.87
1954	1335	2,120	Apr. 28, 1954	37	122	.697	9.43	144	*11.16
1955	1385	2,400	Oct. 16, 1954	47	160	.914	12.45	146	11.34
1956	1435	3,350	Feb. 25, 1956	52	231	1.32	17.97	232	18.03
1957	1505	2,720	Apr. 4, 1957	58	156	.891	12.08	163	12.60
1958	1555	5,570	July 31, 1958	57	204	1.17	15.77	201	15.60
1959	1625	8,600	Jan. 21, 1959	73	231	1.32	17.89	269	20.86
1960	1705	1,700	Mar. 28, 1960	57	209	1.19	11.27	-	-

* Not previously published.

b Dec. 3, 1950, Jan. 4, 1951.

MUSKINGUM RIVER BASIN

1195. Bolivar Reservoir at Bolivar, Ohio

Location.--Lat 40°39'05", long 81°25'55", at dam on Sandy Creek, 1.1 miles east of Bolivar, Tuscarawas County, Ohio.

Drainage area.--502 sq mi.

Records available.--June 1938 to September 1960. Month-end contents prior to September 1939 published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 895.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Extremes.--1938-60: Maximum total contents, 63,440 acre-ft Jan. 26, 1959 (elevation, 944.01 ft); minimum, 175 acre-ft Oct. 9, 1953 (elevation, 896.30 ft).

Remarks.--Reservoir formed by earth dam completed Nov. 15, 1937. Capacity at spillway level (elevation, 962.0 ft), 149,600 acre-ft. Reservoir is used for flood control only. There are no gates on spillway and all regulation is done by gates in conduits through dam.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	209	363	275	327	3,420	6,500	2,620	295	340	275	225	209
1952	205	304	2,510	37,150	372	438	818	349	233	203	197	200
1953	197	200	229	620	307	430	426	511	251	232	245	191
1954	192	189	191	317	236	4,090	3,120	238	224	194	191	184
1955	401	320	3,250	257	2,160	1,350	973	258	304	194	194	194
1956	194	254	200	694	9,960	1,521	1,262	6,250	456	261	298	215
1957	214	212	309	410	456	384	379	283	4,852	246	213	200
1958	263	253	788	771	1,175	612	6,506	270	257	5,093	365	317
1959	238	245	313	56,400	841	419	5,830	744	353	320	659	892
1960	298	699	520	430	413	15,240	301	384	302	324	325	200

1200. Leesville Reservoir near Leesville, Ohio

Location.--Lat 40°28'10", long 81°11'45", in E $\frac{1}{2}$ sec.36, T.13 N., R.6 W., at dam on McGuire Creek, 1.4 miles northeast of Leesville, Carroll County.

Drainage area.--47.9 sq mi.

Records available.--April 1938 to September 1960. Month-end contents prior to September 1939 published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 928.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Extremes.--1938-60: Maximum total contents, 26,760 acre-ft Apr. 17, 1948 (elevation, 969.59 ft); minimum, 370 acre-ft Oct. 9-25, 1939 (elevation, 928.38 ft), but may have been less during period Sept. 18-24, 1940.

Remarks.--Reservoir formed by earth dam completed Oct. 22, 1937. Capacity at spillway level (elevation, 977.5 ft), 37,400 acre-ft, of which 19,500 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in conduit through dam.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	19,060	19,530	18,960	19,500	16,770	20,490	22,950	19,220	19,230	19,140	18,360	17,970
1952	17,420	14,850	15,340	20,730	19,240	19,480	19,540	19,360	19,000	18,430	19,400	18,030
1953	17,520	13,550	14,130	14,490	16,560	19,310	19,300	19,270	19,220	19,130	18,780	18,550
1954	18,220	18,140	14,020	14,040	14,460	19,670	19,650	19,120	19,000	18,720	19,170	19,040
1955	19,190	19,240	16,470	13,940	16,590	19,450	19,530	19,140	19,030	18,900	18,780	18,500
1956	16,290	13,980	13,980	14,390	22,110	19,740	19,670	21,820	19,370	19,800	19,370	19,100
1957	19,090	14,270	14,000	14,120	17,120	19,460	19,320	19,170	19,670	19,340	18,780	19,080
1958	18,890	14,030	13,940	13,910	15,630	18,820	21,098	19,200	19,150	20,020	19,260	19,230
1959	19,120	19,150	19,150	23,180	19,540	19,360	20,150	19,220	19,170	20,400	19,200	19,100
1960	19,200	14,680	13,950	14,050	19,070	20,740	19,250	19,280	19,370	19,120	19,270	18,900

1205. McGuire Creek below Leesville Dam, near Leesville, Ohio

Location.--Lat 40°28'09", long 81°11'49", in SE $\frac{1}{4}$ sec.36, T.13 N., R.6 W., on left bank at outlet of Leesville Dam, 1.3 miles upstream from mouth and 1.4 miles northeast of Leesville, Carroll County.

Drainage area.--47.9 sq mi.

Records available.--October 1938 to September 1960. Published as "near Leesville" prior to 1941.

Gage.--Water-stage recorder and V-notch weir. Datum of gage is 915.00 ft above mean sea level. Prior to May 27, 1942, staff gage at site 100 ft upstream at same datum.

Average discharge.--22 years (1938-60), 53.1 cfs.

Extremes.--1938-60: Maximum discharge, 740 cfs Mar. 4, 1940 (gage height, 7.88 ft, backwater from Conotton Creek); no flow for several days in 1939-41.

Remarks.--Flow regulated by Leesville Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.58	55.5	154	179	261	133	146	127	15.9	15.5	11.2	9.39	92.1
1952	8.25	71.6	79.3	159	157	105	142	47.8	10.1	8.01	8.52	8.32	66.7
1953	8.75	72.3	5.13	57.9	9.08	8.75	86.8	65.9	20.9	19.6	4.16	1.90	30.1
1954	2.40	1.83	76.4	11.4	2.88	6.64	83.5	47.8	11.3	2.62	17.5	8.18	22.8
1955	90.3	13.5	118	93.6	50.4	147	65.4	21.7	7.73	3.37	2.24	1.95	51.6
1956	40.5	55.8	6.26	11.9	78.3	196	99.5	116	138	73.6	79.8	22.3	76.5
1957	10.3	88.7	61.7	64.1	3.19	37.7	182	36.1	20.7	18.2	6.08	4.83	44.5
1958	6.73	105	96.2	69.9	7.32	2.12	47.5	165	15.1	99.5	62.6	42.5	60.4
1959	10.0	10.5	21.5	76.0	225	85.2	77.6	65.4	12.6	37.6	38.3	4.82	54.3
1960	17.5	115	98.8	99.0	5.33	65.1	83.2	52.0	49.1	19.6	18.1	6.49	52.5

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	80.1	-
1951	1205	545	Dec. 11, 1950	1.3	92.1	-	-	87.0	-
1952	1235	535	Feb. 12, 1952	1.0	66.7	-	-	60.5	-
1953	1275	324	Apr. 2, 1953	1.2	30.1	-	-	29.8	-
1954	1335	249	Dec. 23, 1953	1.6	22.8	-	-	34.7	-
1955	1385	322	Mar. 22, 1955	1.7	51.6	-	-	41.4	-
1956	1435	355	Feb. 19, 1956	1.0	76.5	-	-	81.3	-
1957	1505	300	Jan. 22, 1957	2.0	44.5	-	-	48.5	-
1958	1555	308	May 4, 1958	1.4	60.4	-	-	46.6	-
1959	1625	404	Feb. 10, 1959	2.0	54.3	-	-	70.1	-
1960	1705	396	Mar. 30, 1960	2.0	52.5	-	-	-	-

1210. Atwood Reservoir near New Cumberland, Ohio

Location.--Lat 40°31'35", long 81°17'15", in SE $\frac{1}{4}$ sec.28, T.15 N., R.7 W., at dam on Indian Fork, 1.5 miles southeast of New Cumberland, Tuscarawas County, Ohio.

Drainage area.--70.3 sq mi.

Records available.--June 1938 to September 1960. Month-end contents prior to September 1939, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 890.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level. Prior to Oct. 11, 1938, staff gage at same site and datum.

Extremes.--1938-60: Maximum total contents, 35,220 acre-ft Feb. 8, 1952 (elevation, 934.51 ft); minimum, 10.2 acre-ft Jan. 8, 9, 1940 (elevation, 890.36 ft).

Remarks.--Reservoir formed by earth dam completed Sept. 23, 1937. Capacity at spillway level (elevation, 941.0 ft), 49,700 acre-ft, of which 23,600 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in conduits through dam.

Contents in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	21,680	19,330	22,730	23,730	24,130	25,410	28,080	23,020	23,000	22,840	21,460	20,660
1952	19,790	21,080	24,400	30,830	23,100	23,600	23,790	23,030	22,200	21,000	20,030	19,210
1953	18,290	17,900	18,290	23,260	23,300	23,600	23,580	23,340	22,970	22,960	22,600	22,260
1954	21,900	21,800	22,000	22,640	23,000	24,190	23,730	22,880	22,780	22,310	22,520	22,120
1955	22,960	23,050	19,800	15,980	22,670	23,920	23,860	22,910	22,800	22,520	22,340	21,880
1956	20,750	16,560	16,520	17,180	28,280	23,950	23,600	25,650	23,570	23,450	23,360	23,080
1957	22,970	16,780	16,860	16,580	20,600	23,900	23,660	23,210	23,870	22,910	22,560	22,740
1958	22,500	15,990	16,010	15,960	18,290	22,440	26,910	23,210	23,240	24,240	23,280	23,460
1959	23,090	23,020	23,090	32,170	24,000	23,460	24,990	23,520	23,150	24,030	23,150	22,790
1960	23,380	16,110	15,960	15,860	18,640	25,580	23,280	23,320	23,390	23,140	23,000	22,550

MUSKINGUM RIVER BASIN

1215. Indian Fork below Atwood Dam, near New Cumberland, Ohio

Location.--Lat 40°31'30", long 81°17'20", in SE $\frac{1}{4}$ sec.28, T.15 N., R.7 W., on left bank 500 ft downstream from Atwood Dam, 0.5 mile upstream from mouth and 1.5 miles southeast of New Cumberland, Tuscarawas County.

Drainage area.--70.3 sq mi.

Records available.--October 1938 to September 1960. Published as "near New Cumberland" prior to 1940.

Gage.--Water-stage recorder and masonry control. Datum of gage is 884.00 ft above mean sea level, adjustment of 1912. Prior to Aug. 28, 1943, staff gage at site 250 ft upstream at same datum. Auxiliary staff gage read twice weekly 0.5 mile downstream.

Average discharge.--22 years (1938-60), 71.9 cfs.

Extremes.--1938-60: Maximum discharge, 1,610 cfs Apr. 7, 1945; maximum gage height, 19.0 ft June 11, 1947 (backwater from Conotton Creek); minimum discharge, 0.1 cfs at times during 1939, 1944, 1946-47, 1952; minimum gage height, 4.95 ft Sept. 4, 1939.

Remarks.--Flow regulated by Atwood Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	23.9	144	143	247	279	228	185	143	13.2	18.5	17.7	16.2	121
1952	13.1	15.3	72.2	224	31.0	137	188	50.2	16.8	16.1	15.0	17.4	88.5
1953	13.0	12.1	8.94	15.6	67.4	77.7	109	118	24.0	26.2	13.1	1.58	40.4
1954	1.32	1.28	1.58	2.07	5.97	11.7	127	53.0	22.3	2.72	1.75	1.72	28.3
1955	60.9	12.1	127	134	59.6	235	89.4	32.3	9.20	3.37	1.80	1.70	64.3
1956	22.3	96.1	10.4	11.0	107	292	121	209	164	39.7	62.7	35.7	97.4
1957	12.0	108	76.2	100	2.98	63.9	283	51.1	19.7	22.4	4.29	3.27	62.4
1958	6.80	130	146	92.7	7.14	2.04	64.4	239	20.6	234	77.2	42.2	89.4
1959	14.0	12.7	29.5	94.2	352	119	98.1	103	25.0	23.1	27.4	4.71	73.3
1960	65.9	187	139	146	78.6	13.9	107	63.1	35.5	19.4	9.34	3.77	72.2

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	107	-
1951	1205	604	Jan. 17, 1951	2.2	121	-	-	103	-
1952	1235	625	Feb. 8, 1952	.1	98.5	-	-	83.0	-
1953	1275	380	May 23, 1953	1.0	40.4	-	-	37.9	-
1954	1335	588	Mar. 30, 31, 1954	.8	28.3	-	-	44.9	-
1955	1395	471	Mar. 21, 1955	1.4	64.3	-	-	58.0	-
1956	1435	628	Mar. 1, 1956	.6	97.4	-	-	87.3	-
1957	1505	455	Jan. 22, 1957	1.4	62.4	-	-	69.6	-
1958	1555	489	July 13, 1958	1.5	89.4	-	-	70.5	-
1959	1625	443	Feb. 1-6, 1959	1.3	73.3	-	-	101	-
1960	1705	377	Apr. 4, 1960	1.6	72.2	-	-	-	-

1220. Dover Reservoir near Dover, Ohio

Location.--Lat 40°33'30", long 81°24'45", in SW $\frac{1}{4}$ sec.6, T.9 N., R.1 W., at dam on Tuscarawas River, 4.2 miles northeast of Dover, Tuscarawas County, Ohio.

Drainage area.--1,397 sq mi.

Records available.--June 1938 to September 1960. Month-end contents prior to September 1939 published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 858.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level. Prior to Sept. 22, 1938, staff gage at same site and datum.

Extremes.--1938-60: Maximum total contents, 92,890 acre-ft June 11, 1947 (elevation, 902.68 ft); no contents several days during most years; minimum elevation, 864.25 ft Sept. 26, 1939.

Remarks.--Reservoir formed by concrete dam completed Nov. 29, 1937. Capacity at spillway level (elevation, 916.0 ft) 203,000 acre-ft, of which 1,000 acre-ft is in conservation pool. Reservoir used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in conduits through dam.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	7.4	41.1	14.2	35.7	775	674	1,320	10.9	33.5	14.2	4.4	1.0
1952	.3	18.9	926	59,200	47.9	82.1	98.8	23.5	21.9	2.0	.6	0
1953	0	0	0	117	17.5	56.6	33.8	22.6	2.0	3.4	2.6	.1
1954	0	0	0	.8	.4	549	1,290	.1	3.0	2.1	0	0
1955	3.0	11	346	4.0	221	158	122	3.5	7.2	3.4	.4	0
1956	4.0	3.0	0	84	22,950	181	347	6,832	76	20	9.0	0
1957	0	3.2	15.0	80	57	67	4.0	5,670	3.6	.8	0	0
1958	1.4	7.4	74	72	257	32	4,933	1.5	3.8	3,506	15	16
1959	1.6	3.0	17	57,250	338	83	6,990	115	16	124	52	85
1960	33	166	124	79	63	22,490	15	67	60	41	71	4.8

1225. Tuscarawas River below Dover Dam, near Dover, Ohio

Location.--Lat 40°31'49", long 81°25'51", in T.9 N., R.2 W., on left bank at downstream side of bridge on State Highway 16, 2.2 miles downstream from Dover Dam, 2½ miles north-east of Dover, Tuscarawas County, and 3 miles upstream from Sugar Creek.

Drainage area.--1,398 sq mi.

Records available.--October 1923 to September 1960. Published as "near Dover" prior to 1940.

Gage.--Water-stage recorder. Datum of gage is 861.51 ft above mean sea level, adjustment of 1912. Prior to Aug. 30, 1930, chain gage at same site and datum.

Average discharge.--37 years (1923-60), 1,389 cfs.

Extremes.--1923-60: Maximum discharge, 26,400 cfs Jan. 26, 1937 (gage height, 15.51 ft); minimum, 2.3 cfs July 20, 1946, Oct. 27, 1948; minimum gage height, -1.64 ft July 20, 1946; minimum daily discharge, 6.5 cfs Oct. 26, 1948.

Flood in March 1913 reached a stage of about 23.5 ft (discharge, 62,000 cfs, computed by Corps of Engineers).

Remarks.--Ohio Canal diverts small amount of water from river at Portage Lakes, 3 miles south of Akron and since 1939 from Nimisila Creek; part of diverted water flows into Cuyahoga River basin. Flow regulated by four flood-control reservoirs since 1936.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	381	960	2,667	3,526	4,430	4,146	3,277	1,633	732	945	405	548	1,957
1952	356	857	2,129	3,960	5,066	2,981	2,845	1,330	487	540	464	408	1,774
1953	341	407	469	1,316	1,053	1,213	1,780	2,032	942	654	435	307	912
1954	219	214	366	487	493	2,041	2,570	1,213	698	259	317	217	758
1955	1,718	493	1,041	1,570	2,453	4,171	1,743	748	477	346	306	234	1,271
1956	376	998	428	430	3,466	4,316	2,195	4,113	3,151	1,018	1,216	638	1,855
1957	393	511	916	1,208	1,265	1,343	4,392	1,396	987	1,358	349	450	1,209
1958	338	631	1,949	1,429	856	1,194	1,312	2,680	670	2,572	3,050	1,120	1,494
1959	559	569	646	2,216	6,319	2,661	1,901	2,009	950	846	663	466	1,618
1960	1,473	1,808	2,604	2,655	2,052	1,324	2,463	1,243	1,125	657	547	379	1,544

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,870	-
1951	1205	8,000	Dec. 4, 1950	338	1,957	-	-	1,901	-
1952	1235	9,000	Jan. 29, 1952	82	1,774	-	-	1,596	-
1953	1275	5,780	May 24, 1953	211	912	-	-	877	-
1954	1335	5,060	Apr. 19, 1954	177	758	-	-	966	-
1955	1365	7,010	Mar. 19, 1955	72	1,271	-	-	1,147	-
1956	1435	7,800	Mar. 18, 1956	204	1,855	-	-	1,857	-
1957	1505	6,410	(a)	272	1,209	-	-	1,302	-
1958	1555	6,100	Aug. 11, 1958	267	1,494	-	-	1,396	-
1959	1625	7,150	Feb. 25, 1959	39	1,618	-	-	1,965	-
1960	1705	6,810	Apr. 9, 1960	14	1,544	-	-	-	-

a Apr. 13, 16, 19, 20, 1957.

1230. Sugar Creek above Beach City Dam, at Beach City, Ohio

Location.--Lat 40°39'25", long 81°34'40", in NE $\frac{1}{4}$ sec.35, T.10 N., R.3 W., on right bank at downstream side of bridge on State Highway 212 at Beach City, Stark County, 2.3 miles upstream from Beach City Dam.

Drainage area.--160 sq mi.

Records available.--October 1944 to September 1960. Prior to May 1945 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 953.2 ft above mean sea level, adjustment of 1912.

Average discharge.--16 years (1944-60), 142 cfs.

Extremes.--1945-60: Maximum daily discharge, 7,960 cfs Jan. 22, 1959; maximum gage height, 20.04 ft Jan. 23, 1959 (backwater from Beach City Reservoir); minimum discharge, 1.4 cfs Aug. 27, 1952; minimum gage height, -0.06 ft Sept. 10, 1955.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	14.6	42.4	262	379	541	411	334	133	36.6	57.2	103	30.8	186
1952	16.9	76.4	296	687	369	337	275	74.8	22.6	16.5	13.2	20.3	184
1953	9.04	13.6	25.6	179	114	126	174	160	29.3	27.7	12.6	5.55	72.9
1954	4.43	6.63	16.3	29.7	25.7	185	296	81.8	23.9	5.40	10.2	3.08	57.4
1955	118	16.1	61.6	110	289	414	105	32.9	18.2	21.9	10.5	5.40	99.3
1956	10.0	60.8	19.0	57.4	522	372	155	394	281	79.0	125	31.3	174
1957	15.0	15.0	46.6	117	130	115	538	218	253	127	33.7	59.7	138
1958	22.4	39.9	249	171	95.6	109	182	225	55.0	248	219	71.5	141
1959	32.2	33.1	50.3	723	472	313	244	131	108	74.6	27.9	19.4	184
1960	143	168	290	270	221	218	162	71.3	49.9	30.5	28.6	13.7	139

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.10	0.80	1.89	2.73	3.52	2.96	2.33	0.96	0.26	0.41	0.07	0.21	15.74
1952	.12	.53	2.13	4.95	2.49	2.43	1.92	.54	.16	.12	.09	.14	15.62
1953	.06	.09	.16	1.29	.74	.91	1.22	1.15	.20	.20	.09	.04	6.17
1954	.03	.05	.12	.21	.17	1.34	2.06	.59	.17	.04	.07	.02	4.87
1955	.85	.11	.44	.79	1.88	2.99	.73	.24	.13	.16	.08	.04	8.44
1956	.07	.42	.14	.41	3.52	2.68	1.08	2.84	1.96	.57	.90	.22	14.81
1957	.11	.10	.34	.84	.85	.83	3.75	1.57	1.76	.92	.24	.42	11.73
1958	.16	.28	1.80	1.23	.62	.79	1.27	1.60	.38	1.79	1.58	.50	12.00
1959	.23	.23	.36	5.21	3.07	2.26	1.70	.94	.75	.54	.20	.14	15.63
1960	1.03	1.17	2.09	1.95	1.49	1.57	1.13	.51	.35	.22	.21	.10	11.82

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	183	15.55
1951	1205	2,000	Jan. 4, 1951	4.2	186	1.16	15.74	192	16.23
1952	1235	5,520	Jan. 27, 1952	2.1	184	1.15	15.62	155	13.17
1953	1275	829	May 24, 1953	3.2	72.9	.456	6.17	71.1	6.04
1954	1335	956	Apr. 18, 1954	1.5	57.4	.359	4.87	71.7	6.07
1955	1385	1,360	Mar. 4, 1955	2.8	99.3	.621	8.44	90.2	7.67
1956	1435	2,960	Feb. 26, 1956	5.2	174	1.09	14.81	173	14.73
1957	1505	2,560	June 29, 1957	11	136	.862	11.73	158	13.46
1958	1555	1,650	July 12, 1958	17	141	.881	12.00	125	10.58
1959	1625	7,960	Jan. 22, 1959	8.0	184	1.15	15.63	225	19.10
1960	1705	1,800	Mar. 29, 1960	10	139	.869	11.82	-	-

1235. Beach City Reservoir near Beach City, Ohio

Location.--Lat 40°38'10", long 81°33'30", in T.10 N., R.3 W., at dam on Sugar Creek, 1.6 miles southeast of Beach City, Stark County.

Drainage area.--300 sq mi.

Records available.--June 1938 to September 1960. Month-end contents prior to September 1939 published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 931.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level. Prior to Feb. 4, 1939, staff gage at same site and datum.

Extremes.--1938-60: Maximum total contents, 53,520 acre-ft Jan. 23, 1959 (elevation, 973.24 ft); minimum, 1.1 acre-ft several days in September and October 1939 (elevation, 931.60 ft).

Remarks.--Reservoir formed by earth dam completed Aug. 13, 1937. Capacity at spillway level (elevation, 976.5 ft), 71,700 acre-ft, of which 1,700 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in conduits through dam or through bypass in conservation weir.

Contents, in acre-feet, on last day of month												
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	1,840	2,160	2,070	2,190	2,700	4,460	3,750	2,020	1,980	1,930	1,880	1,850
1952	1,840	2,070	4,670	24,580	2,210	2,420	2,420	2,080	1,860	1,810	1,800	1,800
1953	1,800	1,830	1,880	2,940	2,200	2,320	2,190	2,150	1,860	1,850	1,780	1,760
1954	1,830	1,840	1,850	1,960	1,910	3,540	2,730	1,900	1,790	1,760	1,750	1,700
1955	1,910	1,980	3,000	1,830	2,980	2,610	2,270	1,930	1,850	1,860	1,780	1,840
1956	1,810	1,950	1,860	2,880	12,400	2,670	2,910	8,150	2,340	2,060	1,970	1,890
1957	1,880	1,910	2,120	2,260	2,550	2,290	2,380	2,120	14,780	2,040	1,920	1,910
1958	1,870	2,200	2,550	2,340	3,190	2,330	8,050	2,000	1,990	3,720	2,110	2,080
1959	1,950	2,000	2,130	22,590	2,710	2,410	7,650	2,350	2,600	2,070	2,130	2,210
1960	2,230	2,870	2,700	2,490	2,400	14,860	2,180	2,170	2,040	1,940	2,100	1,890

1240. Sugar Creek below Beach City Dam, near Beach City, Ohio

Location.--Lat 40°38'10", long 81°33'20", in T.10 N., R.3 W., on right bank 1,000 ft downstream from Beach City Dam, 0.3 mile downstream from South Fork, and 1½ miles southeast of Beach City, Stark County.

Drainage area.--300 sq mi.

Records available.--October 1938 to September 1960. Published as "near Beach City" prior to 1940.

Gage.--Water-stage recorder. Datum of gage is 928.00 ft above mean sea level, adjustment of 1912. Prior to Mar. 23, 1939, staff gage at site 550 ft downstream at datum 1 ft higher. Mar. 23, 1939, to Sept. 26, 1949, water-stage recorder at site 300 ft downstream at present datum.

Average discharge.--22 years (1938-60), 265 cfs.

Extremes.--1938-60: Maximum discharge, 7,500 cfs Mar. 13, 1939 (gage height, 9.53 ft, converted to present site and datum by curve of relation); minimum, 3.1 cfs Sept. 28-30, 1954; minimum gage height, 0.60 ft Sept. 1, 2, 9, 10, 1954.

Remarks.--Floodflow regulated by Beach City Reservoir. Records of chemical analyses for the period October 1957 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	31.7	126	585	876	1,187	819	673	242	75.2	93.4	22.0	46.3	393
1952	24.9	121	485	996	1,034	669	575	196	53.3	49.7	31.1	30.4	353
1953	16.8	25.0	44.6	357	255	245	300	338	58.2	65.7	22.1	7.78	144
1954	7.74	11.7	18.7	53.4	40.1	323	463	154	32.7	10.7	15.6	4.95	94.7
1955	122	28.9	136	222	560	890	244	72.6	34.0	43.3	23.6	11.8	197
1956	19.3	93.0	33.6	60.4	714	862	345	811	721	204	175	68.1	341
1957	28.0	29.5	101	210	245	267	974	352	249	395	53.0	72.7	247
1958	36.5	71.0	477	264	144	206	282	584	104	553	444	107	275
1959	44.8	50.5	86.2	830	1,201	548	401	340	229	134	50.5	32.7	323
1960	241	315	556	546	439	294	507	170	177	64.3	77.7	27.6	284

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	387	-
1951	1205	2,740	Dec. 4, 1950	14	393	-	-	384	-
1952	1235	2,510	Mar. 11, 1952	11	353	-	-	308	-
1953	1275	1,530	Jan. 19, 1953	5.5	144	-	-	140	-
1954	1335	1,400	Apr. 18, 1954	3.1	94.7	-	-	124	-
1955	1385	2,390	Mar. 9, 1955	6.2	197	-	-	185	-
1956	1435	2,010	Feb. 7, 1956	10	341	-	-	342	-
1957	1505	1,740	Jan. 23, 1957	20	247	-	-	283	-
1958	1555	1,600	(a)	26	275	-	-	241	-
1959	1625	2,340	Jan. 28, 1959	14	323	-	-	402	-
1960	1705	2,200	Apr. 6, 1960	16	284	-	-	-	-

a Apr. 29, 30, May 2, 6, 8, Aug. 2-5.

MUSKINGUM RIVER BASIN

1250. Home Creek near New Philadelphia, Ohio

Location.--Lat 40°28'05", long 81°24'15", on right bank 100 ft downstream from highway bridge, half a mile upstream from confluence with Beaverdam Creek, and $2\frac{1}{2}$ miles southeast of New Philadelphia, Tuscarawas County.

Drainage area.--1.64 sq mi.

Records available.--December 1936 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 872.49 ft above mean sea level, adjustment 1912.

Average discharge.--23 years (1937-60), 1.29 cfs.

Extremes.--1936-60: Maximum discharge, 269 cfs Feb. 25, 1956 (gage height, 4.32 ft); no flow at times in 1938-40, 1942-60.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.15	1.69	3.47	5.34	5.25	4.50	3.38	0.93	0.32	0.25	0	0.04	2.09
1952	.01	.67	2.61	6.78	2.88	2.58	3.46	1.00	.14	.02	.02	.03	1.68
1953	.01	.04	.15	1.74	1.09	1.49	1.45	2.84	.16	.17	.04	.003	.76
1954	0	.01	.03	.10	.05	1.63	1.12	.37	.11	.01	.05	.03	.29
1955	1.58	.23	1.34	1.02	3.00	3.15	1.29	.22	.10	.04	.06	.02	.99
1956	.05	.30	.12	.29	4.76	3.76	2.36	2.83	2.66	.45	.46	.29	1.51
1957	.12	.15	1.03	1.01	1.04	1.53	4.87	1.04	.87	.15	.03	.26	1.00
1958	.11	.28	3.19	1.04	.65	1.05	1.68	2.55	.28	3.61	1.11	.65	1.36
1959	.18	.22	.33	5.09	2.61	1.88	1.58	.96	1.34	.52	.60	.33	1.30
1960	1.11	1.13	1.83	2.47	2.02	2.73	1.33	1.00	.72	.20	.17	.02	1.23

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.10	1.15	2.44	3.76	3.33	3.16	2.30	0.65	0.22	0.18	0	0.03	17.32
1952	.007	.46	1.83	4.76	1.90	1.81	2.35	.70	.09	.01	.01	.02	13.95
1953	.007	.03	.10	1.22	.69	1.05	.99	1.99	.11	.12	.03	.002	8.34
1954	0	.007	.02	.07	.03	1.15	.76	.26	.07	.007	.03	.02	2.42
1955	1.11	.16	.94	.72	1.91	2.21	.88	.15	.07	.03	.04	.02	8.24
1956	.03	.20	.08	.20	3.13	2.64	1.61	1.99	1.81	.32	.32	.20	12.53
1957	.08	.10	.72	.71	.66	1.08	3.31	.73	.59	.10	.02	.18	8.28
1958	.08	.19	2.25	.73	.41	.74	1.14	1.79	.19	2.54	.78	.44	11.28
1959	.13	.15	.23	3.57	1.66	1.33	1.07	.67	.91	.37	.42	.22	10.73
1960	.78	.77	1.29	1.74	1.33	1.91	.90	.70	.49	.14	.12	.01	10.18

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2.17	17.96
1951	1205	125	Jan. 4, 1951	0	2.09	1.27	17.32	1.92	15.93
1952	1235	164	Jan. 26, 1952	0	1.68	1.02	13.95	1.42	11.79
1953	1275	179	May 22, 1953	0	.76	.463	6.34	.75	6.22
1954	1335	19	Mar. 30, 1954	0	.29	.177	2.42	.56	4.61
1955	1385	83	Oct. 15, 1954	0	.99	.604	8.24	.77	6.34
1956	1435	269	Feb. 25, 1956	0	1.51	.921	12.53	1.58	13.12
1957	1505	134	June 28, 1957	0	1.00	.610	8.28	1.19	9.90
1958	1555	243	July 8, 1958	0	1.36	.829	11.28	1.12	9.27
1959	1625	221	Jan. 21, 1959	0	1.30	.793	10.73	1.58	13.06
1960	1705	49	Mar. 29, 1960	0	1.23	.750	10.18	-	-

1255. Piedmont Reservoir at Piedmont, Ohio

Location.--Lat 40°11'25", long 81°12'45", in SE $\frac{1}{4}$ sec.35, T.10 N., R.6 W., at dam on Stillwater Creek, 0.4 mile west of Piedmont, Harrison County.

Drainage area.--84 sq mi.

Records available.--May 1938 to September 1960. Month end contents prior to September 1939 published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 881.75 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Extremes.--1938-60: Maximum total contents, 46,710 acre-ft June 11, 12, 1947 (elevation, 918.33 ft); minimum, 95 acre-ft Sept. 18-25, 1939 (elevation, 882.25 ft).

Remarks.--Reservoir is formed by earth dam, completed May 22, 1937. Capacity at spillway level (elevation, 924.6 ft), 65,000 acre-ft, of which 33,600 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in tunnel through abutment of dam.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	32,800	34,100	33,830	33,760	33,640	36,060	33,970	33,690	35,620	33,000	30,800	30,380
1952	28,970	31,000	34,610	41,750	33,710	33,480	35,300	33,620	32,500	33,020	31,790	30,140
1953	28,140	27,000	28,710	34,790	33,760	33,120	33,920	33,990	33,510	33,000	32,340	31,790
1954	22,380	22,250	22,500	24,640	25,660	33,870	33,900	33,410	32,710	32,210	32,450	32,080
1955	33,370	33,460	36,220	32,960	33,920	33,690	33,710	33,160	32,600	32,340	32,340	31,680
1956	31,750	32,780	32,410	34,100	35,090	35,210	33,940	36,910	37,480	36,220	33,460	32,850
1957	32,890	32,850	33,780	35,990	34,010	34,010	33,990	33,320	33,280	32,670	31,970	32,010
1958	32,030	33,370	33,920	33,870	34,400	33,890	34,840	33,550	33,510	34,010	33,440	33,760
1959	32,930	33,180	33,280	37,620	33,870	34,040	34,470	33,670	32,780	32,780	32,760	32,270
1960	32,870	27,460	25,080	25,100	31,660	34,260	31,420	32,960	32,890	32,740	32,270	31,680

1260. Stillwater Creek at Piedmont, Ohio

Location.--Lat 40°11'40", long 81°12'50", in sec.35, T.10 N., R.6 W., on left bank 400 ft downstream from outlet of Piedmont Dam and mouth of Boggs Fork and three-quarters of a mile northwest of Piedmont, Harrison County.

Drainage area.--122 sq mi.

Records available.--October 1938 to September 1960. Prior to March 1939 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 872.00 ft above mean sea level, adjustment of 1912. Prior to Sept. 9, 1949, at site 1,000 ft downstream at datum 1.00 ft higher.

Average discharge.--22 years (1938-60), 134 cfs.

Extremes.--1938-60: Maximum discharge, 1,470 cfs Dec. 4, 1950 (gage height, 10.72 ft); maximum gage height, 11.23 ft Mar. 7, 1945 (site and datum then in use); minimum discharge, 0.1 cfs Sept. 4, 1953; minimum gage height observed, -1.20 ft Sept. 17, 28, Oct. 4-7, 1948, site and datum then in use.

Remarks.--Flow regulated by Piedmont Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	16.0	115	374	493	494	486	369	112	157	135	28.0	24.2	232
1952	23.2	36.3	209	417	464	275	323	118	34.4	34.1	42.5	36.6	167
1953	32.0	31.2	25.2	136	131	180	172	192	63.4	53.3	3.56	.59	84.9
1954	155	3.59	3.97	10.3	5.04	57.3	153	107	29.1	3.22	4.11	3.70	44.9
1955	83.2	30.5	127	164	359	430	202	70.2	29.2	9.60	5.86	2.68	125
1956	4.25	35.5	28.2	25.2	423	445	331	296	223	187	174	39.8	183
1957	14.0	12.8	176	198	192	173	365	80.6	47.9	20.8	2.23	2.99	106
1958	3.00	31.6	214	171	102	140	129	373	67.1	169	164	59.8	136
1959	30.1	28.4	71.9	355	515	204	231	183	58.5	10.1	39.5	4.42	142
1960	31.3	161	223	237	123	155	161	92.2	46.0	26.2	6.35	1.67	105

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1950	-	-	-	-	-	-	-	231
1951	1205	1,470	Dec. 4, 1950	9.5	232	-	-	212
1952	1235	1,450	Jan. 27, 1952	13	167	-	-	152
1953	1275	700	Mar. 26, 1953	.2	84.9	-	-	91.3
1954	1335	462	(a)	.4	44.9	-	-	515
1955	1385	1,120	Mar. 5, 1955	1.9	125	-	-	110
1956	1435	817	July 6, 1956	2.8	183	-	-	195
1957	1505	878	Apr. 5, 1957	1.1	108	-	-	110
1958	1555	914	Aug. 4, 1958	1.8	136	-	-	126
1959	1625	1,330	Feb. 11, 1959	2.0	142	-	-	166
1960	1705	617	Dec. 14, 15	1.1	105	-	-	-

a Oct. 5, 13, 1953, Apr. 12, 18, 1954.

1265. Clendening Reservoir at Tiptecanoe, Ohio

Location.--Lat 40°16'05", long 81°16'35", in NW¼ sec.16, T.12 N., R.7 W., at dam on Brushy Fork, 0.6 mile east of Tiptecanoe, Harrison County, Ohio.

Drainage area.--69.5 sq mi.

Records available.--June 1938 to September 1960. Month-end contents prior to September 1939, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 862.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level. Prior to July 11, 1938, staff gage at same site and datum.

Extremes.--1938-60: Maximum total contents, 38,080 acre-ft Feb. 7, 1952 (elevation, 903.85 ft); minimum, 33 acre-ft Nov. 4, 1938 (elevation, 862.33 ft).

Remarks.--Reservoir is formed by earth dam, completed Nov. 1, 1937. Capacity at spillway level (elevation, 910.5 ft), 54,000 acre-ft, of which 26,500 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in tunnel through abutment of dam.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	25,500	27,050	25,790	26,540	28,040	29,260	27,490	26,180	26,420	25,870	24,920	24,650
1952	24,040	26,160	27,300	34,300	26,350	28,580	26,500	26,450	25,980	25,650	25,900	25,380
1953	24,800	24,780	25,970	26,560	26,380	26,610	26,630	26,090	26,080	25,820	24,880	24,190
1954	23,630	23,360	23,390	24,390	24,780	27,510	26,580	25,940	25,500	24,990	25,060	25,310
1955	25,960	25,900	28,860	26,040	26,630	26,540	26,520	25,940	25,700	25,140	25,210	24,610
1956	24,610	26,010	25,660	26,750	26,380	26,800	26,670	30,110	26,770	26,520	26,730	25,680
1957	25,620	18,720	17,200	18,750	23,880	26,260	26,330	26,090	27,160	25,670	24,950	24,270
1958	23,850	17,280	17,130	17,140	19,760	24,480	27,030	26,130	26,040	26,180	26,160	26,110
1959	25,680	25,820	25,900	26,600	26,710	26,670	26,880	26,400	26,140	25,820	25,580	25,140
1960	25,620	20,400	18,560	18,610	26,110	29,200	26,040	26,180	25,770	25,000	24,660	24,050

1270. Stillwater Creek at Tiptecanoe, Ohio

Location.--Lat 40°16'11", long 81°17'27", in NW¼ sec.22, T.12 N., R.7 W., on left bank at downstream side of highway bridge at Tiptecanoe, Harrison County, half a mile downstream from Brushy Fork, 3½ miles upstream from Weaver Run, 6 miles upstream from Laurel Creek, and 9 miles south of Dennison.

Drainage area.--281 sq mi.

Records available.--October 1938 to September 1960. Prior to January 1939 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 849.00 ft above mean sea level, adjustment of 1912. Prior to Feb. 9, 1939, staff gage at same site and datum.

Average discharge.--22 years (1938-60), 315 cfs.

Extremes.--1938-60: Maximum discharge, 4,410 cfs Mar. 7, 1945 (gage height, 17.26 ft); minimum, 1.0 cfs Oct. 3, 4, 1940; minimum gage height, 0.72 ft Oct. 7, 1947.

Remarks.--Flow regulated by Clendening Reservoir on Brushy Fork and by Piedmont Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	32.5	292	903	1,048	1,117	1,122	841	258	230	216	39.9	38.1	508
1952	34.7	129	626	1,075	1,018	673	850	275	68.3	77.5	76.5	52.0	411
1953	45.0	43.0	76.3	429	306	379	395	367	110	87.8	12.3	6.32	188
1954	166	8.38	8.53	46.2	23.6	297	374	224	50.5	9.94	12.1	12.7	103
1955	235	61.1	297	367	879	1,005	529	133	47.2	16.7	12.5	7.63	298
1956	9.87	101	60.9	68.3	1,052	1,016	738	765	530	409	358	140	433
1957	30.4	136	434	385	326	358	826	186	95.3	61.9	8.03	16.3	238
1958	13.1	182	466	353	144	248	243	792	141	266	286	127	274
1959	54.6	54.6	143	768	997	506	527	387	136	34.6	84.2	11.3	304
1960	85.0	353	516	531	300	390	360	206	112	39.4	12.9	7.93	243

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	493	-
1951	1205	3,600	Dec. 4, 1950	20	508	-	-	472	-
1952	1235	3,900	Jan. 27, 1952	22	411	-	-	358	-
1953	1275	1,260	Jan. 29, 1953	5.2	188	-	-	189	-
1954	1335	1,210	Mar. 30, 1954	3.8	103	-	-	138	-
1955	1365	2,350	Mar. 6, 1955	6.4	298	-	-	262	-
1956	1435	2,000	May 29, 1956	7.6	433	-	-	469	-
1957	1505	2,000	Apr. 5, 1957	5.6	238	-	-	243	-
1958	1555	1,870	May 6, 1958	5.8	274	-	-	239	-
1959	1625	3,050	Feb. 11, 1959	7.4	304	-	-	363	-
1960	1705	1,380	Mar. 30, 1960	7.0	243	-	-	-	-

1275. Stillwater Creek at Uhrichsville, Ohio

Location.--Lat 40°23'11", long 81°20'48", on left bank, gages upstream and downstream from concrete dam of Dennison Water Supply Co., at Uhrichsville, Tuscarawas County, 2 miles upstream from Little Stillwater Creek.

Drainage area.--367 sq mi.

Records available.--July 1922 to September 1960.

Gage.--Two water-stage recorders used interchangeably. Datum of upper gage is 839.37 ft, lower gage, 829.37 ft above mean sea level, adjustment of 1912. Prior to Oct. 1, 1936, staff gage at site 1.7 miles upstream at same datum as upper gage; since Oct. 1, 1936, this gage used as auxiliary gage.

Average discharge.--38 years (1922-60), 432 cfs (unadjusted).

Extremes.--1922-60: Maximum discharge, 7,650 cfs Aug. 8, 9, 1935 (gage height, 14.2 ft, site then in use, 12.8 ft, upper gage at present site); no flow at times in 1930, 1932, 1936, 1939-40, 1953.

Flood in March 1913 reached a stage of about 17.5 ft site in use prior to October 1936, and about 15.5 ft, upper gage at present site.

Remarks.--Flow regulated by Piedmont and Clendening Reservoirs. Water is diverted 1.7 miles above station for municipal supply of cities of Dennison and Uhrichsville; diversion not included in figures of daily discharge. For the water years 1951-55 the monthly average diversion was about 2.0 cfs. Record of diversions for water years 1956-60, listed below, furnished by State Health Department. Records of chemical analyses for the period October 1957 to September 1958 of site 3 miles upstream, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	52.0	355	1,202	1,408	1,532	1,474	1,060	350	257	273	50.2	50.9	668
1952	42.7	193	751	1,558	1,320	863	1,060	356	91.3	87.0	94.8	55.9	537
1953	44.3	42.4	92.4	526	400	463	525	469	145	119	15.3	8.54	237
1954	153	11.7	17.8	60.9	34.6	438	539	334	81.2	11.0	14.3	14.8	143
1955	277	75.0	373	499	1,113	1,315	683	172	59.7	18.4	15.6	8.71	380
1956	15.5	131	71.8	72.5	1,452	1,384	967	1,007	673	515	424	186	571
1957	41.8	133	553	552	452	498	1,143	253	162	99.4	9.68	24.8	325
1958	29.0	205	639	476	209	392	358	1,123	176	404	352	154	379
1959	68.5	64.7	168	995	1,202	654	611	462	181	70.1	123	19.6	380
1960	131	422	651	760	469	572	507	293	186	47.6	21.5	12.9	339

Monthly and yearly mean diversion by cities of Dennison and Uhrichsville, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	1.66	1.68	2.04	1.78	1.86	1.63	1.37	1.42	1.78	1.84	1.84	1.73	1.70
1957	1.70	1.57	1.64	1.80	1.64	1.64	1.64	1.66	1.73	1.78	1.84	1.74	1.70
1958	1.66	1.68	1.68	1.68	1.80	1.63	1.53	1.56	1.67	1.74	1.80	1.72	1.68
1959	1.61	1.58	1.72	1.69	1.61	1.56	1.50	1.62	1.73	1.79	1.86	1.67	1.66
1960	1.61	1.62	1.74	1.66	1.79	1.87	1.61	1.70	1.77	1.62	1.80	1.70	1.71

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted			Observed		Adjusted		
		Momentary maximum		Minimum		Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean
		Discharge	Date	day	day									
1950	-	-	-	-	-	-	-	-	-	-	-	-	679	-
1951	1205	3,690	Dec. 5, 1950	26	668	-	-	-	-	-	-	-	615	-
1952	1235	5,210	Jan. 27, 1952	36	537	-	-	-	-	-	-	-	469	-
1953	1275	1,450	(a)	.8	237	-	-	-	-	-	-	-	237	-
1954	1335	1,800	Mar. 31, 1954	3.6	143	-	-	-	-	-	-	-	189	-
1955	1385	2,690	Mar. 7, 1955	3.6	380	-	-	-	-	-	-	-	337	339
1956	1435	2,780	Mar. 8, 1956	2.8	571	573	-	-	-	-	-	-	614	616
1957	1505	2,550	Apr. 5, 1957	5.0	325	327	-	-	-	-	-	-	337	339
1958	1555	2,550	May 5, 1958	9.5	379	381	-	-	-	-	-	-	331	333
1959	1625	3,040	Jan. 22, 1959	10	380	382	-	-	-	-	-	-	456	458
1960	1705	2,510	Mar. 30, 1960	8.3	339	341	-	-	-	-	-	-	-	-

a Jan. 29, Mar. 26, 1953.

1280. Tappan Reservoir at Tappan, Ohio

Location.--Lat 40°21'35", long 81°13'35", in NW¼ sec.4, T.13 N., R.7 W., at dam on Little Stillwater Creek, 0.9 mile west of Tappan, Harrison County.

Drainage area.--71.0 sq mi.

Records available.--May 1938 to September 1960. Month-end contents prior to September 1939, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 870.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Extremes.--1938-60: Maximum total contents, 48,480 acre-ft Feb. 5, 6, 1952 (elevation, 904.53 ft); minimum, 45 acre-ft Sept. 29, 1939 (elevation, 869.96 ft).

Remarks.--Reservoir is formed by earth dam, completed Oct. 24, 1936. Capacity at spillway level (elevation, 909.0 ft), 61,600 acre-ft, of which 35,100 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in tunnel through dam.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	34,540	35,140	34,780	35,530	35,650	37,350	36,820	35,290	35,430	35,050	33,760	33,320
1952	32,330	34,380	36,300	45,440	35,170	35,500	35,600	35,260	34,080	33,320	34,760	33,660
1953	32,330	31,920	33,410	35,510	35,310	35,240	35,340	35,100	34,930	34,330	33,200	32,400
1954	31,770	31,370	31,620	32,630	33,200	36,320	35,140	34,880	34,330	33,920	33,800	33,480
1955	34,980	35,120	36,560	34,740	35,240	35,430	35,120	34,880	34,500	34,080	33,960	33,250
1956	29,370	25,700	25,700	26,120	37,400	35,290	35,190	38,480	35,170	35,070	35,600	34,620
1957	34,520	25,720	25,700	25,780	30,800	35,340	35,290	35,070	36,270	34,740	33,760	33,800
1958	33,410	25,800	22,740	25,760	28,450	33,270	35,980	35,020	34,880	35,170	35,050	35,100
1959	21,640	21,800	22,310	33,390	35,120	35,220	33,300	32,860	32,640	33,710	34,220	33,730
1960	35,260	27,190	25,740	25,700	31,880	35,240	31,920	30,630	34,880	34,620	34,400	33,710

1285. Little Stillwater Creek below Tappan Dam, at Tappan, Ohio

Location.--Lat 40°21'30", long 81°13'50", in sec.4, T.13 N., R.7 W., on right bank 150 ft downstream from outlet of reservoir at Tappan Dam, 1 mile west of Tappan, Harrison County, and 2 miles upstream from Plum Run.

Drainage area.--71.0 sq mi.

Records available.--October 1938 to September 1960. Published as "at Tappan" prior to 1940.

Gage.--Water-stage recorder and masonry control. Datum of gage is 861.00 ft above mean sea level, adjustment of 1912. Prior to Jan. 30, 1939, water-stage recorder at gate-house of Tappan Dam at datum 9 ft higher. Jan. 30 to Mar. 24, 1939, staff gage and Mar. 25, 1939, to Aug. 6, 1944, water-stage recorder, at site 150 ft downstream at present datum.

Average discharge.--22 years (1938-60), 77.1 cfs.

Extremes.--1938-60: Maximum discharge, 1,050 cfs Mar. 13, 1939 (gage height, 10.00 ft); no flow Sept. 12-15, 18, 19, 21-29, Oct. 13-21, 1939.

Remarks.--Flow regulated by Tappan Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12.6	88.0	229	239	296	295	225	101	29.9	45.0	15.7	16.6	132
1952	17.8	16.7	144	230	297	171	210	80.5	23.2	15.7	28.2	16.4	112
1953	18	14.4	6.11	106	73.5	91.8	122	120	71.7	14.1	4.93	4.75	54.0
1954	4.71	4.81	2.14	1.95	1.96	67.3	138	58.0	12.3	3.31	2.25	2.30	24.9
1955	62.3	13.3	75.8	106	193	239	146	25.4	11.5	5.77	2.93	1.75	72.8
1956	64.8	95.9	10.5	17.5	90.7	281	163	144	182	133	66.7	42.8	108
1957	8.76	145	92.1	87.5	2.65	13.8	234	42.5	67.0	35.2	4.80	1.80	61.2
1958	6.16	147	107	100	10.4	2.63	31.2	202	21.3	44.5	64.7	32.2	64.6
1959	216	12.0	21.5	7.75	157	128	169	85.6	23.3	2.28	4.61	2.61	88.6
1960	18.4	191	143	142	40.8	66.2	123	6.50	26.0	11.0	7.27	3.24	64.8

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	125	-
1951	1205	504	Jan. 17, 1951	9.1	132	-	-	119	-
1952	1235	580	Feb. 18, 1952	8.6	112	-	-	100	-
1953	1275	420	June 18, 1953	4.4	54.0	-	-	51.5	-
1954	1335	496	Mar. 31, 1954	1.7	24.9	-	-	36.8	-
1955	1385	538	Mar. 10, 11, 1955	1.3	72.8	-	-	74.3	-
1956	1435	464	Mar. 14, 1956	1.0	108	-	-	114	-
1957	1505	412	Jan. 23, 1957	1.4	61.2	-	-	62.4	-
1958	1555	412	Aug. 4, 1958	1.6	64.6	-	-	64.1	-
1959	1625	447	Feb. 19-20, 1959	1.3	68.6	-	-	76.9	-
1960	1705	546	Apr. 5-7, 1960	2.0	64.8	-	-	-	-

1290. Tuscarawas River at Newcomerstown, Ohio

Location.--Lat 40°15'40", long 81°36'35", in T.5 N., R.3 W., on right bank at downstream side of highway bridge three-quarters of a mile south of Newcomerstown, Tuscarawas County, 2 miles upstream from Buckhorn Creek, and 4 miles downstream from Dunlap Creek.

Drainage area.--2,436 sq mi.

Records available.--September 1921 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 780.00 ft above mean sea level, adjustment of 1912. Prior to Sept. 28, 1925, chain gage, Sept. 28, 1925, to July 17, 1935, water-stage recorder, and July 18, 1935, to Feb. 13, 1939, wire-weight gage, at site $\frac{1}{2}$ miles upstream at datum 5.03 ft higher prior to Oct. 1, 1934, and thereafter at datum 0.03 ft higher than present datum.

Average discharge.--39 years (1921-60), 2,459 cfs.

Extremes.--1921-60: Maximum discharge, 46,800 cfs Jan. 26, 1937 (gage height, 20.65 ft, site and datum then in use); minimum, 120 cfs Aug. 7, 1930.
Flood in March 1913 reached a stage of about 21.5 ft, at site and datum used prior to Oct. 1, 1934 (discharge, 83,000 cfs, computed by Corps of Engineers).

Remarks.--Ohio Canal diverts water above station; part of diverted water flows into Cuyahoga River basin. Flow regulated by eight flood-control reservoirs. Records of chemical analyses and water temperatures for the period October 1955 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	491	1,655	5,186	6,863	7,597	7,736	6,089	2,940	1,239	1,294	513	590	3,495
1952	495	1,321	3,745	7,797	8,560	5,222	5,337	2,310	852	687	642	550	3,107
1953	417	528	661	2,579	2,184	2,339	3,121	3,374	1,441	961	465	359	1,534
1954	450	285	416	604	600	3,031	4,329	2,194	876	343	593	279	1,150
1955	2,254	742	1,792	2,811	4,698	7,528	3,513	1,282	681	496	404	312	2,182
1956	512	1,513	678	603	6,586	7,844	4,173	6,873	5,707	2,456	2,281	1,229	3,356
1957	620	1,046	2,079	2,422	2,300	2,488	7,838	2,505	1,715	2,382	548	641	2,208
1958	466	1,220	3,709	2,676	1,547	2,221	2,371	5,510	1,262	4,271	4,275	1,692	2,621
1959	1,076	798	992	4,349	9,762	4,645	3,529	3,462	1,667	1,308	1,027	558	2,719
1960	2,094	2,845	4,553	4,767	3,576	2,781	4,002	1,942	1,771	1,149	801	496	2,562

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	3,358	-	-
1951	1205	14,200	Dec. 5, 1950	386	3,495	-	-	3,344	-	-
1952	1235	18,100	Jan. 27, 1952	396	3,107	-	-	2,776	-	-
1953	1275	7,760	May 25, 1953	292	1,534	-	-	1,496	-	-
1954	1335	8,710	Mar. 31, 1954	230	1,150	-	-	1,458	-	-
1955	1385	11,000	Mar. 4, 1955	261	2,182	-	-	2,003	-	-
1956	1435	14,500	Mar. 8, 1956	316	3,356	-	-	3,446	-	-
1957	1505	11,800	Apr. 5, 1957	388	2,208	-	-	2,348	-	-
1958	1555	11,000	May 5, 1958	396	2,621	-	-	2,407	-	-
1959	1625	13,700	Jan. 22, 1959	320	2,719	-	-	3,276	-	-
1960	1705	11,200	Mar. 30, 1960	392	2,562	-	-	-	-	-

1295. Charles Mill Reservoir near Mifflin, Ohio

Location.--Lat 40°44'20", long 82°21'40", in NE $\frac{1}{4}$ sec. 35, T.23 N., R.17 W., at dam on Black Fork, 2.5 miles south of Mifflin, Adams County.

Drainage area.--216 sq mi.

Records available.--April 1938 to September 1960. Month-end contents prior to September 1939 published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 987.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Extremes.--1938-60: Maximum total contents, 53,780 acre-ft Jan. 25, 1959 (elevation, 1,013.53 ft); minimum, 1,880 acre-ft Jan. 19, 20, 1954 (elevation, 991.57 ft).

Remarks.--Reservoir is formed by earth dam, completed Aug. 17, 1936. Capacity at spillway level (elevation, 1,020.0 ft), 88,000 acre-ft, of which 7,400 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in conduits through dam or through bypass gate around conservation weir.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	7,620	8,520	7,990	8,450	10,440	10,490	8,390	8,070	7,790	7,510	6,500	6,230
1952	5,970	7,970	11,230	27,680	8,390	8,790	10,400	7,960	7,510	7,410	6,200	6,260
1953	5,750	5,970	7,510	8,460	8,520	7,920	8,160	11,630	7,310	7,720	6,930	5,850
1954	4,790	4,240	2,130	2,720	4,270	9,550	21,760	7,600	7,690	6,840	6,260	5,500
1955	7,440	7,610	8,520	7,620	10,030	9,500	8,060	7,480	7,320	7,310	7,310	7,300
1956	7,440	8,070	4,620	5,130	11,940	10,090	8,820	15,640	8,770	10,300	7,600	7,410
1957	7,400	7,530	7,890	7,750	9,820	8,250	17,730	11,880	15,560	7,540	7,320	8,240
1958	7,710	8,180	9,780	8,650	9,760	8,890	9,520	7,820	8,110	10,000	8,240	7,990
1959	7,670	8,380	7,930	48,560	34,000	8,920	22,580	8,170	7,760	7,470	6,880	6,350
1960	7,100	3,820	6,400	7,880	8,630	15,240	8,000	7,960	7,750	7,410	7,400	6,940

MUSKINGUM RIVER BASIN

1300. Black Fork below Charles Mill Dam, near Mifflin, Ohio

Location.--Lat 40°44'07" long 82°21'48", in NE $\frac{1}{4}$ sec.35, T.23 N., R.17 W., on left bank 800 ft downstream from Charles Mill Dam, 0.45 mile downstream from Seymour Run, $2\frac{1}{2}$ miles south of Mifflin, Ashland County, and 4 miles upstream from Rocky Fork.

Drainage area.--218 sq mi.

Records available.--October 1938 to September 1960. Prior to October 1940, published as Black Fork near Mifflin. Monthly discharge only for October 1938, published in WSP 1305.

Gage.--Water-stage recorder and concrete control. Datum of gage is 981.56 ft above mean sea level, adjustment of 1912. Dec. 3, 1941, to Dec. 5, 1944, at site 200 ft downstream at same datum.

Average discharge.--22 years (1938-60), 189 cfs.

Extremes.--1938-60: Maximum discharge, 2,100 cfs Mar. 14, 1939 (gage height, 8.45 ft); minimum, 0.2 cfs May 21, 1940; minimum daily, 0.9 cfs Apr. 21, 1940.
Maximum discharge known, 11,700 cfs in March 1913 (computed by Corps of Engineers).

Remarks.--Flow regulated by Charles Mill Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	53.1	159	473	571	594	468	379	178	58.6	39.1	23.1	23.8	250
1952	17.8	42.6	350	695	668	477	365	124	43.1	38.0	31.7	18.3	238
1953	18.2	16.0	21.1	175	118	145	132	269	103	68.5	35.7	22.7	95.4
1954	22.1	22.0	53.0	34.7	51.4	123	48.5	371	94.3	24.7	25.0	18.1	109
1955	13.9	22.2	39.7	159	305	750	164	45.4	16.7	39.8	39.8	9.59	133
1956	20.8	170	101	45.6	484	680	242	396	301	136	162	47.5	248
1957	16.6	20.8	69.0	193	225	260	785	518	226	334	16.7	113	231
1958	41.8	73.8	404	185	115	235	280	255	116	164	434	†67.6	199
1959	57.9	96.8	114	348	1,014	837	227	523	101	33.9	24.7	24.9	278
1960	19.5	129	229	321	327	114	413	101	135	38.2	26.4	23.0	155

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1950	-	-	-	-	-	-	-	329
1951	1205	-	-	-	250	-	-	227
1952	1235	1,170	Feb. 21, 1951	12	238	-	-	208
1953	1275	1,480	Jan. 20, 21, 1952	8.0	95.4	-	-	99.0
1954	1335	690	May 24, 1953	15	109	-	-	107
1955	1385	720	Apr. 30 to May 2	7.6	133	-	-	151
		1,220	Mar. 9, 12, 13,	3.8				
1956	1435	1,140	Mar. 21, 1956	7.0	248	-	-	233
1957	1505	1,120	Apr. 13-15, 1957	8.8	231	-	-	266
1958	1555	905	Dec. 21, 22, 1957	23	199	-	-	176
1959	1625	1,230	Feb. 12, 1958	20	278	-	-	288
1960	1705	1,100	Apr. 10, 1960	6.2	155	-	-	-

1305. Touby Run at Mansfield, Ohio

Location.--Lat 40°45'55", long 82°32'35", in NW $\frac{1}{4}$ sec.20, T.21 N., R.18 W., on left bank 100 ft downstream from bridge on U.S. Highway 30N at west edge of Mansfield, Richland County, and 2 miles upstream from mouth.

Drainage area.--5.17 sq mi.

Records available.--August 1946 to September 1960.

Gage.--Water-stage recorder and broad-crested weir. Datum of gage is 1,216.42 ft above mean sea level, adjustment of 1912 (levels by city of Mansfield).

Average discharge.--14 years (1946-60), 4.88 cfs.

Extremes.--1946-60: Maximum discharge, 965 cfs June 6, 1947 (gage height, 4.17 ft), from rating curve extended above 160 cfs on basis of slope-area measurements at gage heights 2.49 and 4.17 ft and computation of flow over dam at gage height 3.94 ft; minimum, 0.1 cfs on many days in 1946, 1951-52, 1954-56.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.17	5.43	8.85	14.2	14.4	11.8	9.80	4.53	1.30	0.80	0.25	0.31	6.02
1952	.17	1.76	14.8	20.8	7.46	10.3	8.35	1.03	.52	.54	.32	.68	5.58
1953	.51	.65	1.35	5.00	3.29	3.88	4.95	13.0	.66	2.25	.89	.26	3.05
1954	.20	.27	.43	1.70	1.31	7.81	12.0	1.97	1.14	.52	.63	.32	2.36
1955	.60	.34	.99	1.53	7.62	16.8	3.14	.59	.40	1.79	1.87	.34	2.99
1956	1.29	6.36	1.04	1.10	14.0	14.5	3.93	15.5	7.64	5.12	1.67	.31	6.02
1957	.48	.89	1.53	3.59	4.94	3.20	15.9	8.67	7.78	1.64	.75	6.28	4.60
1958	1.03	3.50	12.2	3.81	5.47	4.65	8.43	4.95	3.95	7.72	5.70	2.15	5.30
1959	1.30	2.28	2.34	20.7	15.8	8.84	11.7	6.76	1.85	1.78	1.04	1.19	6.25
1960	1.84	3.03	6.81	8.24	8.18	6.45	4.97	3.86	5.46	2.84	1.45	.91	4.49

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.26	1.17	1.97	3.17	2.90	2.63	2.12	1.01	0.28	0.18	0.06	0.07	15.82
1952	.04	.38	3.30	4.64	1.55	2.29	1.81	.23	.11	.12	.07	.15	14.69
1953	.07	.14	.30	1.11	.66	.86	1.07	2.89	.14	.50	.20	.06	8.00
1954	.04	.06	.10	.38	.26	1.74	2.59	.44	.25	.12	.14	.07	6.19
1955	.13	.07	.22	.54	1.53	3.75	.68	.13	.09	.40	.42	.07	7.83
1956	.29	1.37	.23	.25	2.92	3.23	.85	3.46	1.65	1.14	.37	.07	15.83
1957	.11	.19	.34	.80	1.00	.71	3.44	1.94	1.67	.37	.17	1.35	12.09
1958	.23	.76	2.72	.85	1.10	1.04	1.82	1.10	.85	1.72	1.27	.46	13.92
1959	.29	.49	.52	4.81	3.19	1.97	2.52	1.51	.40	.40	.23	.26	16.39
1960	.41	.65	1.52	1.83	1.70	1.44	1.07	.86	1.18	.63	.32	.20	11.81

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	7.00	18.39
1951	1205	349	Nov. 20, 1950	0.1	6.02	1.16	15.82	6.14	16.14
1952	1235	505	Jan. 26, 1952	.1	5.58	1.08	14.69	4.36	11.48
1953	1275	172	May 22, 1953	.2	3.05	.590	8.00	2.93	7.69
1954	1335	172	Apr. 22, 1954	.1	2.36	.456	6.19	2.44	6.41
1955	1385	380	Mar. 1, 1955	.1	2.99	.578	7.83	3.54	9.30
1956	1435	565	Nov. 16, 1955	.1	6.02	1.16	15.83	5.54	14.58
1957	1505	417	Sept. 20, 1957	.2	4.60	.890	12.09	5.77	15.16
1958	1555	400	July 31, 1958	.4	5.30	1.03	13.92	4.59	11.51
1959	1625	910	Jan. 21, 1959	.5	6.25	1.21	16.39	6.73	17.67
1960	1705	172	June 22, 1960	.5	4.49	.868	11.81	-	-

1315. Black Fork at Loudonville, Ohio

Location.--Lat 40°38'08", long 82°14'19", in NW $\frac{1}{4}$ sec.1, T.19 N., R.16 W., on right bank at upstream side of bridge on State Highway 3 at Loudonville, Ashland County, 1 $\frac{1}{2}$ miles downstream from Big Run.

Drainage area.--342 sq mi.

Records available.--May 1931 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 928.46 ft above mean sea level, adjustment of 1912. Prior to Oct. 23, 1941, chain gage at same site and datum.

Average discharge.--29 years (1931-60), 326 cfs.

Extremes.--1931-60: Maximum discharge, 7,780 cfs Jan. 22, 1959 (gage height, 13.65 ft), from rating curve extended above 4,000 cfs by logarithmic plotting; minimum, 29 cfs Aug. 7, 8, 1934 (gage height, 2.28 ft).
Maximum stage known, about 20.5 ft, present site and datum, in March 1913.

Remarks.--Flow regulated by Charles Mill Reservoir, 16 miles above station. Records of chemical analyses for the period October 1957 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	121	261	722	903	983	792	682	334	154	130	86.0	86.9	435
1952	79.4	143	607	1,259	1,031	811	624	251	123	115	89.8	80.6	433
1953	73.5	75.5	97.4	325	238	278	270	519	191	178	120	81.1	204
1954	81.3	78.1	118	116	107	302	788	489	193	84.3	84.6	86.3	209
1955	78.1	78.2	106	245	452	1,114	302	128	86.4	140	119	64.7	242
1956	90.8	340	172	117	842	1,285	408	727	614	299	294	124	441
1957	76.1	89.1	150	299	381	375	1,163	825	531	451	90.4	315	394
1958	129	191	710	340	225	365	486	479	235	373	639	164	364
1959	117	175	193	851	1,449	1,121	494	714	232	147	103	97.9	469
1960	108	228	416	547	578	335	624	210	274	107	93.8	88.5	299

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	526	-
1951	1205	2,650	Dec. 8, 1950	72	435	-	-	412	-
1952	1235	3,680	Jan. 27, 1952	64	433	-	-	384	-
1953	1275	1,320	May 23, 1953	62	204	-	-	207	-
1954	1335	1,670	Apr. 28, 1954	44	209	-	-	208	-
1955	1385	2,440	Mar. 22, 1955	53	242	-	-	270	-
1956	1435	2,960	Feb. 26, 1956	57	441	-	-	418	-
1957	1505	3,230	May 20, 1957	57	394	-	-	455	-
1958	1555	2,200	Aug. 1, 1958	80	364	-	-	317	-
1959	1625	7,780	Jan. 22, 1959	82	469	-	-	491	-
1960	1705	1,900	Mar. 28, 1960	69	299	-	-	-	-

1320. Clear Fork at Butler, Ohio

Location.--Lat 40°35'35", long 82°25'20", in NE $\frac{1}{4}$ sec.20, T.21 N., R.17 W., on left bank at downstream side of bridge on State Highway 95, 0.3 mile northeast of Butler, Richland County.

Drainage area.--143 sq mi.

Records available.--October 1944 to September 1960. Prior to June 1945 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,057.2 ft above mean sea level, datum of 1929.

Average discharge.--16 years (1944-60), 148 cfs (unadjusted).

Extremes.--1944-60: Maximum discharge, 14,300 cfs Jan. 21, 1959 (gage height, 9.43 ft), from rating curve extended above 3,000 cfs on basis of computed reservoir inflow; minimum, 12 cfs Sept. 12, 18, 1948; minimum gage height recorded, 0.85 ft Aug. 15, 1952.

Remarks.--Water is diverted above station for municipal supply of city of Mansfield; diversion prior to July 1953 was from wells adjacent to Clear Fork. Pumpage is believed to be diverted from the Clear Fork basin as recharge for aquifer supplying well field. Flow regulated by Clear Fork Reservoir (capacity, 10,740 acre-ft) 12 miles above station beginning in 1949 (corrected). Subsequent to July 1953, pumpage has been from wells and reservoir. Diversion figures are combined well and surface-water pumpage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	34.4	98.7	262	365	411	320	284	136	53.8	44.1	26.7	24.4	170
1952	26.0	46.7	305	570	286	307	289	104	47.0	34.1	24.7	25.1	172
1953	24.6	24.4	32.5	136	116	127	143	330	52.9	55.1	34.3	22.4	91.7
1954	20.9	22.2	24.3	44.4	46.5	176	304	81.3	60.7	26.1	23.7	18.1	70.6
1955	29.7	26.0	47.2	71.6	217	481	146	55.9	39.2	56.2	30.6	24.6	102
1956	35.5	136	54.9	47.9	390	373	136	310	272	182	118	49.8	175
1957	37.3	33.4	53.3	111	143	118	509	339	274	112	42.4	121	157
1958	47.5	96.9	392	137	105	134	224	209	92.0	192	235	75.4	183
1959	49.7	55.5	53.8	601	488	268	242	201	110	76.5	52.3	48.3	186
1960	44.4	79.2	170	199	236	162	180	90.2	84.9	41.6	35.9	24.2	112

Monthly and yearly mean diversion, in cubic feet per second, by city of Mansfield

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.5	8.4	8.3	8.7	8.7	8.4	8.3	8.5	a9.0	a9.0	a9.0	8.7	8.6
1952	8.4	8.0	7.9	8.1	8.0	8.1	8.4	8.3	9.6	9.1	9.1	9.4	8.5
1953	8.9	8.7	8.7	8.9	9.2	9.4	9.1	9.2	10.6	10.1	10.4	10.6	9.5
1954	9.7	8.8	8.7	8.3	8.6	8.8	8.9	9.3	10.3	10.5	10.6	10.8	9.4
1955	9.8	9.6	10.0	9.6	9.7	11.2	10.9	11.4	11.7	11.5	12.3	11.2	10.7
1956	10.0	9.5	9.9	10.2	10.2	10.5	a10.5	10.6	11.6	11.2	11.5	11.6	10.6
1957	12.0	11.1	9.9	9.5	9.5	9.6	9.9	10.0	11.0	11.7	12.1	10.6	10.6
1958	10.0	9.3	9.4	9.7	10.3	9.7	9.8	9.8	10.2	10.7	11.0	10.5	10.0
1959	10.4	9.7	10.3	10.3	10.5	10.5	10.6	11.2	13.1	12.6	13.0	12.1	11.2
1960	10.5	10.1	10.7	9.9	10.1	10.6	10.3	9.8	10.4	10.1	11.3	11.3	10.4

a Estimated.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	219	-
1951	1205,1385	2,650	Jan. 4, 1951	22	170	-	-	172	-
1952	1235,1385	4,600	Jan. 26, 1952	20	172	-	-	147	-
1953	1275,1385	2,370	May 22, 1953	19	91.7	-	-	90.5	-
1954	1335,1385	1,670	Mar. 30, 1954	16	70.6	-	-	73.6	-
1955	1385	3,580	Mar. 4, 1955	17	102	-	-	120	-
1956	1435	5,200	Feb. 25, 1956	24	175	-	-	166	-
1957	1505	2,860	(a)	30	157	-	-	192	-
1958	1555	2,480	Aug. 8, 1958	29	163	-	-	131	-
1959	1625	14,300	Jan. 21, 1959	25	186	-	-	197	-
1960	1705	1,800	Feb. 10, 1960	22	112	-	-	-	-

a Apr. 4, May 20, 1957.

Note.--Figures of discharge in cubic feet per second per square mile and runoff in inches published in water-supply papers for water years 1945-60 have been found in error, those for 1945-52 because of diversion by city of Mansfield, and those for 1953-60 because of diversion and regulation by Clear Fork Reservoir; those figures are not published herein and should not be used.

MUSKINGUM RIVER BASIN

1330. Pleasant Hill Reservoir near Perrysville, Ohio

Location.--Lat 40°37'25", long 82°19'30", in NE¼ sec.7, T.19 N., R.16 W., at dam on Clear Fork, 2.5 miles south of Perrysville, Ashland County.

Drainage area.--199 sq mi.

Records available.--May 1938 to September 1960. Month-end contents prior to September 1939 published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 971.75 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Extremes.--1938-60: Maximum total contents, 43,540 acre-ft Jan. 23, 1959 (elevation, 1,044.01 ft); minimum, 86 acre-ft May 8, 1938 (elevation, 976.63 ft).

Remarks.--Reservoir is formed by earth dam, completed Feb. 1, 1938. Capacity at spillway level (elevation, 1,065.0 ft), 87,700 acre-ft, of which 13,500 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in tunnel through dam.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	12,990	13,310	13,240	13,590	17,830	16,960	14,960	13,300	13,160	13,060	12,910	12,900
1952	12,060	13,200	18,590	22,740	13,520	14,850	14,740	13,300	13,090	12,480	11,600	11,040
1953	10,660	10,460	11,080	13,710	13,480	13,310	13,430	15,680	13,120	13,040	12,840	12,430
1954	11,950	11,840	11,950	13,150	13,170	16,260	14,980	13,080	13,000	12,810	12,620	12,040
1955	12,850	12,980	13,640	12,990	15,810	16,760	13,470	13,040	13,040	12,970	12,890	12,800
1956	12,960	13,270	13,010	13,380	19,140	14,510	13,520	18,670	15,820	15,280	13,130	13,010
1957	13,000	9,330	9,120	8,980	12,970	13,380	14,430	13,610	18,110	13,110	13,020	13,240
1958	12,980	9,050	9,050	9,050	13,230	13,630	16,720	13,160	14,100	14,840	13,550	13,240
1959	13,080	13,160	13,150	13,360	15,520	13,550	19,930	13,920	13,400	13,200	13,120	13,000
1960	13,090	9,100	8,920	8,930	13,280	18,350	13,330	13,320	13,210	13,070	13,120	12,440

1335. Clear Fork below Pleasant Hill Dam, near Perrysville, Ohio

Location.--Lat 40°37'10", long 82°19'25", in N¼ sec.7, T.19 N., R.16 W., on right bank a quarter of a mile downstream from Pleasant Hill Dam, 2½ miles south of Perrysville, Ashland County, and 4 miles upstream from Pine Run.

Drainage area.--199 sq mi.

Records available.--October 1938 to September 1960. Published as "near Perrysville" prior to 1940. Monthly discharge only for October 1938, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 967.0 ft above mean sea level, adjustment of 1912. Prior to May 1, 1947, at site half a mile downstream at datum 4.88 ft lower.

Average discharge.--22 years (1938-60), 196 cfs.

Extremes.--1938-60: Maximum discharge, 2,340 cfs Jan. 23, 1959 (gage height, 4.89 ft); minimum, 0.3 cfs Sept. 24, 1953; minimum daily, 0.6 cfs Nov. 2, 4, 1938; minimum gage height, 0.06 ft Feb. 25, 1958.

Remarks.--Flow regulated by Pleasant Hill Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	40.0	115	364	492	511	489	467	232	79.5	63.7	32.8	28.8	241
1952	42.1	61.9	315	747	600	437	425	171	63.9	52.0	41.8	40.0	249
1953	29.9	30.9	33.5	138	157	179	196	410	126	68.3	42.5	27.5	120
1954	28.0	27.9	28.0	36.2	60.5	186	414	138	64.6	28.1	25.9	25.7	88.4
1955	26.3	26.6	53.3	115	231	657	265	86.0	42.6	83.5	35.3	29.3	138
1956	37.1	169	74.5	51.5	443	623	226	437	494	281	193	62.3	257
1957	41.2	108	77.7	167	113	153	704	557	308	233	49.6	135	220
1958	66.4	198	535	193	75.3	169	276	366	125	269	324	111	227
1959	63.0	65.9	78.2	728	807	388	232	393	162	97.9	56.5	54.9	257
1960	52.2	182	269	285	275	143	359	150	117	58.8	49.1	46.7	163

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	289	-	-
1951	1205	1,230	Feb. 22, 1951	22	241	-	-	233	-	-
1952	1235	1,720	Jan. 27, 1952	25	249	-	-	222	-	-
1953	1275	689	May 25, 1953	24	120	-	-	119	-	-
1954	1335	523	Mar. 31, Apr. 1	22	86.4	-	-	90.3	-	-
1955	1385	1,350	Mar. 5, 1955	24	138	-	-	152	-	-
1956	1435	1,370	Mar. 9, 1956	26	257	-	-	252	-	-
1957	1505	1,300	Apr. 6, 10, 1957	28	220	-	-	269	-	-
1958	1565	1,200	Dec. 9, 1957	27	227	-	-	178	-	-
1959	1625	2,340	Jan. 23, 1959	31	257	-	-	262	-	-
1960	1705	1,120	Feb. 11, 12, 1960	25	163	-	-	-	-	-

1345. Mohicanville Reservoir near Mohicanville, Ohio

Location.--Lat 40°48'35", long 82°09'05", in SE $\frac{1}{4}$ sec. 34, T.21 N., R.15 W., at dam on Lake Fork, 2 miles east of Mohicanville, Ashland County.

Drainage area.--269 sq mi.

Records available.--May 1938 to September 1960. Month-end contents prior to September 1939 published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 932.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Extremes.--1938-60: Maximum total contents 59,820 acre-ft June 15, 1947 (elevation, 957.60 ft); minimum, 28 acre-ft several days in 1941, 1944, 1945; minimum elevation, 932.38 ft several days in August, September, October 1941.

Remarks.--Reservoir is formed by earth dam, completed Dec. 24, 1936. Capacity at spillway level (elevation, 963.0 ft), 102,000 acre-ft. Reservoir is used for flood control only. There are no gates on spillway and all regulation is done by gates in conduits through dam.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	58	88	71	88	155	3,330	495	72	69	56	53	50
1952	56	72	4,510	19,390	89	108	92	65	58	52	48	47
1953	60	53	53	148	78	75	77	109	118	75	61	63
1954	70	67	65	76	79	275	5,290	67	58	52	52	51
1955	62	73	116	64	214	1,270	81	63	60	52	51	55
1956	57	74	60	108	9,820	139	123	874	86	347	69	64
1957	68	66	74	96	621	91	248	94	4,350	65	58	79
1958	68	101	122	96	787	104	1,570	70	65	9,800	91	76
1959	67	83	80	48,850	12,530	132	14,290	244	77	71	62	109
1960	75	121	114	127	96	13,230	89	74	61	56	75	54

1350. Lake Fork below Mohicanville Dam, near Mohicanville, Ohio

Location.--Lat 40°43'20", long 82°09'20", in sec. 3, T.20 N., R.15 W., on right bank 800 ft downstream from Mohicanville Dam, 2 miles east of Mohicanville, Ashland County, 2.4 miles downstream from confluence of Jerome and Muddy Forks, and $\frac{7}{8}$ miles northeast of Loudonville.

Drainage area.--269 sq mi.

Records available.--October 1938 to September 1960. Published as "near Mohicanville" prior to 1941.

Gage.--Water-stage recorder. Datum of gage is 930.00 ft above mean sea level, adjustment of 1912. Prior to July 25, 1949, at site 500 ft downstream at same datum.

Average discharge.--22 years (1938-60), 229 cfs.

Extremes.--1938-60: Maximum discharge, 3,920 cfs Mar. 13, 1939; maximum gage height, 9.86 ft Jan. 21, 1959 (backwater from tributary); minimum daily discharge, 1 cfs June 10, 1947, Jan. 25, 1959; minimum gage height, 1.92 ft Nov. 26, 1948.

Remarks.--Flow regulated by Mohicanville Reservoir. Records of chemical analyses for the period October 1957 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	26.4	105	441	625	840	602	465	192	57.8	76.6	16.8	23.0	286
1952	17.8	121	516	929	790	585	408	109	31.9	46.1	12.4	13.5	297
1953	13.3	16.8	40.4	200	138	168	189	478	59.8	120	31.5	9.71	123
1954	9.53	14.7	23.6	49.8	57.7	349	703	212	37.0	13.9	14.1	8.40	124
1955	101	26.3	67.8	156	429	949	224	56.4	25.9	30.2	25.9	11.4	174
1956	22.0	223	48.4	68.7	702	905	236	583	393	279	291	94.2	319
1957	29.9	31.8	93.2	205	311	257	1,012	563	306	275	33.4	244	279
1958	62.1	89.4	509	186	168	223	329	371	110	180	582	106	245
1959	59.9	106	111	333	1,502	722	337	578	263	104	44.1	45.7	343
1960	69.6	173	439	402	411	227	521	134	89.5	38.0	46.6	15.5	213

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	344	-
1951	1205	2,280	Feb. 13, 1951	6.1	286	-	-	293	-
1952	1235	2,090	Jan. 19, 1952	7.0	297	-	-	249	-
1953	1275	1,420	May 25, 1953	5.6	123	-	-	121	-
1954	1335	1,350	May 2, 1954	5.0	124	-	-	137	-
1955	1385	1,780	Mar. 16, 1955	3.0	174	-	-	182	-
1956	1435	1,550	Feb. 25, 1956	8.0	319	-	-	308	-
1957	1505	1,360	Apr. 4, 1957	18	279	-	-	321	-
1958	1555	1,300	May 8, 1958	30	245	-	-	212	-
1959	1625	1,800	Feb. 10, 1959	1	343	-	-	377	-
1960	1705	1,650	Mar. 29, 1960	6.8	213	-	-	-	-

MUSKINGUM RIVER BASIN

1360. Mohican River at Greer, Ohio

Location.--Lat 40°30'55", long 82°11'48", in NW $\frac{1}{4}$ sec.10, T.8 N., R.10 W., on left bank 3,000 ft downstream from bridge on State Highway 514 at Greer, Knox County, 5 miles upstream from Nigger Run, and 7 miles downstream from Lake Fork.

Drainage area.--942 sq mi.

Records available.--September 1921 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 872.91 ft above mean sea level, adjustment of 1912. Prior to July 22, 1931, chain gage at site 3,000 ft upstream at same datum.

Average discharge.--39 years (1921-60), 884 cfs.

Extremes.--1921-60: Maximum discharge, 17,700 cfs Aug. 7, 1935 (gage height, 13.63 ft); minimum, 50 cfs Jan. 2, 1935.

Maximum stage known, 27.0 ft in March 1913 (discharge, 55,000 cfs, estimated).

Remarks.--Flow regulated, beginning August 1936, by Charles Mill, Mohicanville, and Pleasant Hill Reservoirs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	198	557	1,765	2,354	2,661	2,162	1,853	904	384	344	144	164	1,116
1952	148	463	1,563	3,408	2,747	2,158	1,806	711	283	273	172	150	1,153
1953	158	150	222	855	681	806	859	1,682	442	441	212	133	552
1954	141	142	180	232	263	923	1,941	860	311	142	139	113	448
1955	275	168	283	590	1,126	2,863	892	331	181	304	195	121	610
1956	183	759	321	249	2,030	2,895	997	1,946	1,773	956	897	323	1,107
1957	194	262	360	704	843	978	3,320	2,297	1,509	1,157	209	762	1,047
1958	289	555	2,024	906	513	883	1,243	1,356	558	927	1,622	457	951
1959	294	406	403	2,312	4,175	2,491	1,298	1,873	780	396	241	237	1,224
1960	301	648	1,318	1,424	1,525	801	1,597	635	578	259	237	184	789

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,312	-
1951	1205	5,900	Feb. 21, 1951	119	1,116	-	-	1,087	-
1952	1235	9,540	Jan. 27, 1952	112	1,153	-	-	1,013	-
1953	1275	4,260	May 22, 1953	120	552	-	-	548	-
1954	1335	3,730	Apr. 17, 1954	98	448	-	-	471	-
1955	1385	5,490	Mar. 4, 1955	98	610	-	-	653	-
1956	1435	6,860	Feb. 25, 1956	114	1,107	-	-	1,071	-
1957	1505	5,970	Apr. 4, 1957	156	1,047	-	-	1,220	-
1958	1555	4,620	Dec. 21, 1957	190	951	-	-	801	-
1959	1625	15,700	Jan. 22, 1959	175	1,224	-	-	1,322	-
1960	1705	5,620	Feb. 11, 1960	157	789	-	-	-	-

1365. Kokosing River at Mount Vernon, Ohio

Location.--Lat 40°24'25", long 82°30'00", on right bank at downstream side of Tilden Avenue Bridge at Mount Vernon, Knox County, 0.8 mile downstream from North Branch and 2.7 miles upstream from Dry Run.

Drainage area.--200 sq mi.

Records available.--February 1953 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 984.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1944 (levels by Corps of Engineers). Prior to Apr. 3, 1953, wire-weight gage at same site and datum.

Average discharge.--7 years (1953-60), 193 cfs.

Extremes.--1953-60: Maximum discharge, 38,000 cfs Jan. 21, 1959 (gage height, 18.19 ft), from rating curve extended above 6,400 cfs on basis of slope-area measurement of peak flow; minimum, 12 cfs Sept. 29, 30, 1954; minimum gage height, 1.65 ft Oct. 1, 2, 1953.

Remarks.--Some regulation by Knox Lake on East Branch of North Branch Kokosing River beginning in 1954.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	213	166	246	51.1	68.8	30.3	20.9	-
1954	21.5	23.7	27.7	56.5	64.9	256	303	80.3	46.7	26.9	22.8	16.7	78.7
1955	68.7	44.9	115	184	419	672	201	53.0	29.1	65.5	32.5	21.7	158
1956	27.5	160	71.7	64.7	638	542	167	332	394	168	136	56.7	228
1957	36.7	36.7	69.2	188	148	145	765	579	418	172	51.5	74.9	223
1958	48.2	85.9	466	186	144	193	329	317	168	316	196	135	216
1959	62.6	64.9	94.2	1,020	634	329	323	298	212	72.6	45.7	48.1	265
1960	53.1	126	304	376	419	247	280	158	89.7	42.1	44.8	26.0	180

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	1.22	0.93	1.42	0.29	0.40	0.18	0.12	-
1954	0.12	0.13	0.16	0.33	0.54	1.48	1.70	.46	.26	.15	.13	.09	5.35
1955	.40	.25	.66	1.06	2.19	3.87	1.12	.31	.16	.38	.19	.12	10.71
1956	.16	.89	.41	.37	3.44	3.12	.93	1.91	2.20	.97	.78	.32	15.50
1957	.21	.21	.40	1.08	.77	.84	4.26	3.34	2.33	.99	.30	.42	15.15
1958	.28	.48	2.69	1.07	.75	1.11	1.83	1.82	.94	1.82	1.13	.75	14.67
1959	.36	.36	.54	5.88	3.30	1.89	1.81	1.72	1.18	.42	.26	.27	17.99
1960	.31	.70	1.75	2.17	2.26	1.43	1.56	.91	.50	.24	.26	.14	12.23

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	1275	-	-	-	-	-	-	-	-
1954	1335	2,370	Mar. 30, 1954	13	78.7	0.394	5.35	91.9	6.25
1955	1383	4,580	Mar. 4, 1955	17	158	.790	10.71	160	10.86
1956	1435	7,030	Feb. 25, 1956	19	228	1.14	15.50	218	14.86
1957	1505	6,600	May 20, 1957	30	223	1.12	15.15	262	17.78
1958	1555	3,670	May 4, 1958	42	216	1.08	14.67	184	12.48
1959	1625	38,000	Jan. 21, 1959	25	265	1.32	17.99	287	19.49
1960	1705	3,510	Feb. 10, 1960	23	180	.900	12.23	-	-

1370. Kokosing River at Millwood, Ohio

Location.--Lat 40°23'55", long 82°17'10", in southeast corner of T.7 N., R.11 W., on left bank 0.4 mile west of Millwood, Knox County, 1½ miles upstream from Honey Run, 2 miles downstream from Jelloway Creek, and 3½ miles upstream from Brush Run.

Drainage area.--454 sq mi.

Records available.--October 1921 to September 1960. Published as "near Millwood" October 1921 to July 1939. Records published for both sites October 1938 to July 1939.

Gage.--Water-stage recorder at present site and datum since Oct. 1, 1938. Datum of gage is 865.00 ft above mean sea level. Prior to July 10, 1931, chain gage at site 3½ miles downstream and July 10, 1931, to July 31, 1939, water-stage recorder at site 3½ miles downstream, at datum 23.94 ft lower.

Average discharge.--39 years (1921-60), 483 cfs.

Extremes.--1921-60: Maximum discharge, 75,900 cfs Jan. 21, 1959 (gage height, 34.00 ft, from high-water mark in well), from rating curve extended above 20,000 cfs on basis of slope-area measurement of peak flow; minimum, 33 cfs Aug. 17, 26, 1932, Sept. 27, 28, 1954.

Flood in March 1913 reached a stage corresponding to 22.0 ft at former site and datum (discharge, 40,000 cfs, estimated).

Remarks.--Records of chemical analyses for the period October 1957 to September 1958 (at U.S. Highway 62) are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	80.9	248	953	1,451	1,707	1,247	899	325	464	198	80.5	82.5	638
1952	78.3	300	1,188	2,095	1,120	1,429	1,567	587	136	104	75.8	67.2	712
1953	57.5	65.8	107	416	373	457	339	448	123	136	68.9	39.8	219
1954	45.5	52.7	65.2	119	130	534	694	174	98.8	58.7	56.2	41.6	172
1955	124	81.7	210	367	874	1,424	437	153	92.8	152	71.0	56.3	334
1956	74.6	332	154	136	1,345	1,125	499	936	792	427	330	136	520
1957	82.4	82.6	158	401	333	348	1,665	1,110	945	389	102	117	476
1958	90.8	156	1,015	419	254	424	743	780	383	671	435	247	471
1959	125	129	169	2,563	1,425	729	666	720	496	194	150	103	619
1960	189	365	743	919	965	518	563	348	230	121	122	68.2	428

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.21	0.61	2.42	3.69	3.92	3.17	2.21	0.83	1.14	0.50	0.20	0.20	19.10
1952	.20	.74	3.02	5.32	2.66	3.63	3.85	.98	.33	.26	.19	.17	21.35
1953	.15	.16	.27	1.06	.86	1.16	.83	1.14	.30	.35	.18	.10	6.56
1954	.12	.13	.17	.30	.30	1.36	1.71	.44	.24	.15	.14	.10	5.16
1955	.31	.20	.53	.93	2.01	3.62	1.07	.39	.23	.39	.18	.14	10.00
1956	.19	.82	.39	.35	3.19	2.86	1.23	2.38	1.94	1.08	.84	.33	15.60
1957	.21	.20	.40	1.02	.76	.88	4.10	2.81	2.32	.99	.26	.29	14.24
1958	.23	.38	2.58	1.06	.58	1.08	1.83	1.98	.94	1.71	1.10	.61	14.08
1959	.32	.32	.43	6.51	3.27	1.86	1.64	1.83	1.22	.49	.38	.25	18.52
1960	.48	.90	1.89	2.33	2.30	1.31	1.38	.88	.57	.31	.31	.17	12.83

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	704	21.03
1951	1205	11,700	Dec. 7, 1950	65	638	1.41	19.10	662	19.62
1952	1235	20,200	Jan. 27, 1952	50	712	1.57	21.35	600	17.97
1953	1275	3,530	Jan. 18, 1953	36	219	.482	6.56	213	6.40
1954	1355	4,370	Mar. 30, 1954	34	172	.379	5.16	194	5.78
1955	1385	8,370	Mar. 4, 1955	40	334	.736	10.00	346	10.36
1956	1435	11,800	Feb. 25, 1956	56	520	1.15	15.60	501	15.01
1957	1505	10,800	Apr. 4, 1957	74	476	1.05	14.24	556	16.62
1958	1555	6,890	May 4, 1958	81	471	1.04	14.08	400	11.95
1959	1625	75,900	Jan. 21, 1959	77	619	1.36	18.52	692	20.72
1960	1705	8,300	Feb. 11, 1960	62	428	.943	12.83	-	-

1380. Mohawk Reservoir near Nellie, Ohio

Location.--Lat 40°21'10", long 82°05'15", in SW $\frac{1}{4}$ sec.6, T.6 N., R.8 W., at dam on Walhonding River, 1.5 miles northwest of Nellie, Coshocton County.

Drainage area.--1,501 sq mi.

Records available.--April 1938 to September 1960. Month-end contents prior to September 1939, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 799.2 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Extremes.--1938-60: Maximum total contents, 176,100 acre-ft Jan. 25, 1959 (elevation, 873.94 ft); minimum, 102 acre-ft Sept. 21 and Oct. 4, 1955; minimum elevation, 800.35 ft Oct. 4, 1955, from graph based on gage readings.

Remarks.--Reservoir is formed by earth dam, completed Sept. 22, 1937. Capacity at spillway level (elevation, 890.0 ft), 285,000 acre-ft. Reservoir is used for flood control only. There are no gates on spillway and all regulation is done by gates in tunnels through dam.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	162	281	251	369	3,770	8,510	893	289	313	167	155	154
1952	159	242	10,900	75,550	391	651	838	278	189	165	151	146
1953	148	150	155	617	321	259	322	603	170	152	112	113
1954	118	119	146	201	220	2,130	1,330	184	165	154	140	108
1955	166	171	546	203	1,100	1,210	320	171	142	147	124	111
1956	142	301	189	299	38,900	748	617	18,140	601	810	240	156
1957	162	179	204	369	652	355	3,790	515	31,940	194	141	242
1958	172	379	633	372	1,090	516	11,820	224	245	1,861	297	237
1959	171	222	230	142,600	2,180	476	10,860	872	350	276	220	182
1960	208	398	560	500	418	18,200	266	371	291	161	304	125

1385. Walhonding River below Mohawk Dam, at Nellie, Ohio

Location.--Lat 40°20'26", long 82°03'49", on right bank at upstream side of bridge on State Highway 79 at Nellie, Coshocton County, half a mile upstream from Mohawk Creek and 1½ miles downstream from Mohawk Dam.

Drainage area.--1,502 sq mi.

Records available.--December 1910 to March 1913 (gage height and discharge measurements only). September 1921 to September 1960. Published as Mohican River at Pomerene 1910-13, as Walhonding River at Pomerene 1921-37, and as Walhonding River at Nellie 1938-39.

Gage.--Water-stage recorder. Datum of gage is 790.00 ft above mean sea level, adjustment of 1912. Prior to Nov. 7, 1925, chain gage and Nov. 7, 1925, to Sept. 30, 1937, water-stage recorder, at site 3¼ miles upstream at datum 15.53 ft higher. Oct. 1, 1937, to Sept. 30, 1938, wire-weight gage at present site at datum 2.09 ft higher.

Average discharge.--39 years (1921-60), 1,454 cfs.

Extremes.--1921-60: Maximum discharge at site at Pomerene, 43,800 cfs Jan. 25, 1937; maximum discharge at present site since regulation begun at Mohawk Dam, 24,000 cfs Jan. 25, 26, 1937 (gage height, 18.8 ft, present datum, from floodmarks); minimum, 3.3 cfs Oct. 20, 1939; minimum gage height, 4.48 ft Oct. 26, 1948, Sept. 13, 1954; minimum daily discharge, 19 cfs Feb. 27, 1954.
Maximum discharge known, 102,000 cfs (revised) in March 1913 (gage height, 26.9 ft, present site and datum), from information by Corps of Engineers.

Remarks.--Flow regulated beginning 1936 by Mohicanville, Charles Mill, Pleasant Hill, and Mohawk Reservoirs. Records of chemical analyses and water temperatures for the period October 1953 to September 1955 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	305	784	2,663	3,636	4,225	3,608	3,089	1,313	858	578	244	258	1,783
1952	239	720	3,112	4,687	5,464	3,505	3,343	1,218	472	390	273	248	1,962
1953	207	234	338	1,297	1,140	1,351	1,223	2,224	650	607	519	187	811
1954	195	212	276	374	418	1,498	2,967	1,188	473	230	229	162	685
1955	435	241	497	1,115	2,312	4,975	1,611	564	290	488	292	173	1,078
1956	251	1,100	510	389	3,033	4,976	1,680	3,089	2,917	1,531	1,371	487	1,774
1957	252	338	544	1,111	1,232	1,320	5,108	3,541	2,208	2,128	343	875	1,580
1958	393	708	3,147	1,401	796	1,399	1,976	2,623	994	1,809	2,286	773	1,536
1959	442	549	617	2,684	8,428	3,545	1,907	2,877	1,463	705	459	341	1,959
1960	553	1,040	2,195	2,547	2,689	1,199	2,634	1,068	971	474	420	288	1,334

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2,076	-
1951	1205	8,850	Feb. 13, 1951	112	1,783	-	-	1,810	-
1952	1235	10,400	Feb. 13, 1952	130	1,962	-	-	1,684	-
1953	1275	5,580	Jan. 18, 1953	173	811	-	-	803	-
1954	1335	6,060	Mar. 31, 1954	19	685	-	-	726	-
1955	1385	8,110	Mar. 29, 1955	96	1,078	-	-	1,134	-
1956	1435	8,110	Mar. 17, 18, 20	166	1,774	-	-	1,714	-
1957	1505	7,220	Jan. 23, 1957	198	1,580	-	-	1,844	-
1958	1555	6,650	Dec. 8, 1957	307	1,536	-	-	1,312	-
1959	1625	9,760	Feb. 6, 1959	218	1,959	-	-	2,143	-
1960	1705	7,960	Feb. 12, 1960	71	1,334	-	-	-	-

1390. Killbuck Creek at Killbuck, Ohio

Location.--Lat 40°29'43", long 81°59'10", in SW $\frac{1}{4}$ sec 6, T.8 N., R.7 W., on right bank at downstream side of bridge on U.S. Highway 62 at Killbuck, Holmes County, an eighth of a mile downstream from Black Creek.

Drainage area.--466 sq mi.

Records available.--October 1930 to September 1960.

Gage.--Water-stage recorder and wire-weight gage read twice daily. Datum of gage is 788.05 ft above mean sea level, adjustment of 1912. Prior to Oct. 1, 1949, chain gage at same site and datum.

Average discharge.--30 years (1930-60), 394 cfs.

Extremes.--1930-60: Maximum discharge, 28,800 cfs Aug. 7, 1935 (gage height, 21.77 ft, from floodmark), from rating curve extended above 6,000 cfs on basis of slope-area measurement at gage height 21.75 ft; minimum, 23 cfs Sept. 10-15, 28-30, 1954; minimum gage height, 1.96 ft Aug. 14, 1932.

Remarks.--Records of chemical analyses for the period October 1957 to September 1958 are published in reports of the Geological Survey.

Revisions.--Some periods for the water year 1935 were revised in WSP 1555; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches	Momentary maximum		Minimum day
				Discharge	Date	
August 1935.....	2,147	-	5.32	-	-	-
Water year 1934-35.....	405	0.669	11.83	28,800	Aug. 7, 1935	37
Calendar year 1935.....	441	-	12.87	-	-	-

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	56.2	147	674	1,012	1,436	1,102	945	397	161	161	61.8	108	515
1952	60.6	253	743	1,965	1,084	1,075	957	294	102	82.5	82.9	65.1	561
1953	47.3	58.7	115	461	343	382	410	541	172	120	56.8	30.8	231
1954	30.4	37.1	50.5	91.4	67.6	447	813	300	80.4	39.6	39.6	25.6	170
1955	306	77.4	164	328	643	1,527	429	161	78.0	223	69.7	45.5	337
1956	72.4	256	111	126	1,214	1,199	473	1,184	1,013	361	325	141	534
1957	75.5	75.5	151	267	340	382	1,400	669	732	581	125	288	417
1958	110	147	706	380	265	373	457	839	224	677	833	260	443
1959	135	151	170	1,980	1,016	886	610	678	427	236	144	135	546
1960	312	584	750	714	656	443	687	31.7	235	134	123	76.7	400

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.14	0.35	1.67	2.50	3.21	2.72	2.26	0.98	0.38	0.40	0.15	0.26	15.02
1952	.15	.61	1.83	4.86	2.51	2.65	2.24	.73	.24	.20	.21	.16	16.39
1953	.12	.14	.28	1.14	.77	.95	.98	1.44	.41	.30	.14	.07	6.74
1954	.07	.09	.12	.23	.20	1.11	1.94	.74	.19	.10	.10	.06	4.95
1955	.76	.19	.41	.81	1.44	3.78	1.03	.40	.19	.55	.17	.11	9.84
1956	.18	.61	.27	.31	2.82	2.96	1.14	2.66	2.42	.89	.80	.34	15.60
1957	.19	.18	.37	.68	.76	.95	3.35	1.66	1.75	1.44	.31	.55	12.17
1958	.27	.35	1.75	.94	.59	.92	1.09	2.08	.54	1.67	2.06	.62	12.88
1959	.33	.36	.42	4.90	2.27	2.19	1.46	1.67	1.02	.58	.36	.32	15.88
1960	.77	.92	1.81	1.76	1.52	1.10	1.64	.78	.56	.33	.30	.18	11.67

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	551	16.03
1951	1205	3,980	Feb. 13, 1951	50	51.6	1.11	15.02	531	15.45
1952	1235	7,060	Jan. 27, 1952	37	56.1	1.20	16.39	491	14.34
1953	1275	1,660	Jan. 18, 1953	27	23.1	.496	6.74	223	6.48
1954	1335	1,670	Apr. 17, 1954	23	170	.365	4.95	206	6.03
1955	1385	3,390	Mar. 5, 1955	33	33.7	.723	9.84	327	9.54
1956	1435	4,640	Feb. 26, 1956	38	53.4	1.15	15.60	523	15.28
1957	1505	5,600	June 29, 1957	65	41.7	.895	12.17	473	13.80
1958	1555	2,950	July 12, 1958	80	44.5	.951	12.88	400	11.62
1959	1625	28,400	Jan. 22, 1959	62	54.6	1.17	15.88	628	18.27
1960	1705	1,840	Mar. 31, 1960	44	40.0	.858	11.67	-	-

MUSKINGUM RIVER BASIN

1400. Mill Creek near Coshocton, Ohio

Location.--Lat 40°21'50", long 81°51'40", in SW $\frac{1}{4}$ sec.3, T.6 N., R.6 W., on left bank half a mile downstream from Little Mill Creek and 6 miles north of Coshocton, Coshocton County.

Drainage area.--27.5 sq mi.

Records available.--October 1936 to September 1960. Monthly discharge only for October 1936, published in WSP 1305.

Gage.--Water-stage recorder and concrete control. Datum of gage is 782.00 ft above mean sea level, adjustment of 1912.

Average discharge.--24 years (1936-60), 27.9 cfs.

Extremes.--1936-60: Maximum discharge, 7,650 cfs June 28, 1957 (gage height, 12.73 ft), from rating curve extended above 2,400 cfs on basis of slope-area measurements at gage heights 11.40 and 12.73 ft; no flow Sept. 28, 29, 1954.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.62	23.3	69.4	89.1	106	82.7	62.1	15.1	7.33	8.98	+0.56	+0.93	38.5
1952	.99	11.6	50.5	135	64.3	65.1	64.8	26.4	5.50	6.48	1.18	.74	35.9
1953	.33	.81	3.45	41.5	23.8	26.1	23.2	34.2	4.27	3.61	1.05	.15	13.7
1954	.13	.42	1.60	5.48	2.69	35.3	25.9	15.1	2.16	1.00	1.51	.15	7.66
1955	11.1	3.31	20.4	20.3	71.4	80.6	29.6	6.97	1.68	2.46	1.30	.29	20.5
1956	.67	8.79	2.80	6.43	93.0	79.0	48.6	75.5	67.7	34.7	11.0	6.20	35.9
1957	2.16	2.52	15.1	29.0	26.4	29.7	105	33.0	102	23.5	2.38	3.05	31.0
1958	1.72	8.71	63.7	26.5	14.6	21.2	42.8	52.7	7.22	51.8	17.7	6.61	26.5
1959	2.44	3.15	5.52	119	78.2	36.5	40.9	22.0	35.3	11.2	5.29	1.95	29.9
1960	14.8	27.1	47.2	60.3	43.4	42.0	29.5	18.6	23.0	4.66	27.0	2.72	28.4

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.11	0.94	2.90	3.74	4.01	3.47	2.52	0.63	0.31	0.29	0.02	0.04	18.98
1952	.04	.47	2.12	5.58	2.52	2.73	2.63	1.11	.22	.27	.05	.03	17.77
1953	.01	.03	.14	1.74	.90	1.09	1.02	1.43	.17	.15	.04	.006	6.73
1954	.005	.02	.07	.23	.10	1.48	1.05	.63	.09	.04	.06	.006	3.78
1955	.47	.13	.86	.85	2.71	3.38	1.20	.29	.07	.10	.05	.01	10.12
1956	.03	.36	.12	.27	3.64	3.31	1.98	3.17	2.74	1.45	.46	.25	17.78
1957	.09	.10	.63	1.21	1.00	1.24	4.26	1.38	4.14	.99	.10	.12	15.26
1958	.07	.35	2.68	1.11	.55	.89	1.74	2.21	2.29	2.17	.74	.27	13.07
1959	.10	.13	.23	4.99	2.96	1.53	1.66	.92	1.43	.47	.22	.08	14.72
1960	.62	1.10	1.98	2.52	1.70	1.76	1.19	.78	.93	.19	1.13	.11	14.01

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	40.1	19.78
1951	1205	930	Dec. 7, 1950	0.2	38.5	1.40	18.98	35.7	17.66
1952	1235	2,050	Jan. 26, 1952	.1	35.9	1.31	17.77	31.0	15.32
1953	1275	736	Jan. 18, 1953	.1	13.7	.498	6.73	13.5	6.64
1954	1335	250	Mar. 30, 1954	0	7.66	.279	3.78	10.4	5.15
1955	1385	965	Mar. 4, 1955	.1	20.5	.745	10.12	18.6	9.17
1956	1435	3,120	Feb. 25, 1956	.2	35.9	1.31	17.78	36.6	18.09
1957	1505	7,650	June 28, 1957	.5	31.0	1.13	15.26	35.6	17.54
1958	1555	855	July 14, 1958	.8	26.5	.964	13.07	21.1	10.43
1959	1625	4,440	Jan. 21, 1959	.4	29.9	1.09	14.72	36.4	17.96
1960	1705	2,420	Aug. 22, 1960	1.2	28.4	1.03	14.01	-	-

1405. Muskingum River near Coshocton, Ohio

Location.--Lat 40°14'55", long 81°52'22", in T.5 N., R.6 W., on right bank at upstream side of highway bridge, 2 miles south of Coshocton, Coshocton County, and 2 miles downstream from confluence of Tuscarawas and Walhonding Rivers.

Drainage area.--4,847 sq mi.

Records available.--July 1936 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 730.00 ft above mean sea level, adjustment of 1912. Prior to Sept. 19, 1936, staff gage at same site and datum.

Average discharge.--24 years (1936-60), 4,916 cfs.

Extremes.--1936-60: Maximum discharge, 78,700 cfs Jan. 26, 1937 (gage height, 21.98 ft); minimum, 342 cfs Nov. 4, 1944; minimum gage height, 0.01 ft Sept. 13, 14, 1954.
Maximum discharge known, 202,000 cfs March 1913 (gage height, about 28.8 ft), computed by Corps of Engineers.

Remarks.--Flow regulated by 12 flood-control reservoirs.

Monthly and yearly mean discharge, in cubic feet per second												
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
The year												
1951	959	2,844	9,617	13,290	15,930	14,310	11,650	5,545	2,561	2,324	910	998
1952	851	2,836	7,841	16,740	16,860	11,160	11,070	4,364	1,589	1,283	1,070	860
1953	697	864	1,189	4,774	4,151	4,565	5,368	6,974	2,411	1,579	880	565
1954	642	566	768	1,077	1,128	5,054	8,448	4,020	1,496	637	645	499
1955	3,087	1,104	2,573	4,675	8,168	15,010	5,996	2,231	1,126	1,297	807	538
1956	829	3,121	1,497	1,181	12,120	15,670	7,544	12,370	10,800	4,852	4,301	2,155
1957	1,026	1,403	2,995	4,369	4,355	4,856	16,400	7,671	5,465	5,863	1,092	1,843
1958	1,005	2,241	8,312	4,862	2,822	4,453	5,247	10,168	2,800	7,427	7,853	3,030
1959	1,781	1,659	2,200	10,250	20,990	10,110	6,821	7,936	4,215	2,742	1,919	1,128
1960	3,312	4,849	8,392	9,131	7,759	5,070	8,206	3,859	3,606	1,829	1,496	957

Yearly discharge, in cubic feet per second									
Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	6,717	-
1951	1205	26,100	Feb. 13, 21, 1951	714	6,677	-	-	6,492	-
1952	1235	36,400	Jan. 27, 1952	651	6,320	-	-	5,607	-
1953	1275	13,700	May 25, 1953	472	2,850	-	-	2,765	-
1954	1335	16,400	Mar. 31, 1954	420	2,082	-	-	2,487	-
1955	1395	21,000	Mar. 4, 1955	445	3,868	-	-	3,750	-
1956	1435	23,600	Mar. 8, 1956	552	6,344	-	-	6,347	-
1957	1505	23,000	Apr. 10, 1957	728	4,765	-	-	5,284	-
1958	1555	21,400	May 4, 1958	802	5,055	-	-	4,554	-
1959	1625	32,900	Jan. 22, 1959	686	5,867	-	-	6,785	-
1960	1705	21,100	Mar. 30, 1960	700	4,861	-	-	-	-

1410. Senecaville Reservoir near Senecaville, Ohio

Location.--Lat 39°55'25", long 81°26'10", at dam on Seneca Fork, 1.5 miles southeast of Senecaville, Guernsey County.

Drainage area.--121 sq mi.

Records available.--June 1938 to September 1960. Month-end contents prior to September 1939, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 812.05 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level. Prior to Sept. 21, 1938, staff gage at same site and datum.

Extremes.--1938-60: Maximum total contents, 63,370 acre-ft Mar. 24, 1945 (elevation, 837.27 ft); minimum, 2,310 acre-ft Oct. 22, 23, 1939 (elevation, 812.53 ft).

Remarks.--Reservoir formed by earth dam completed May 14, 1937. Capacity at spillway level (elevation, 842.5 ft), 88,500 acre-ft, of which 43,500 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. Outflow is controlled mostly by operation of gates in short conduits through dam, but above spillway level, 11½ ft taintor gates on spillway can be used.

Contents, in acre-feet, on last day of month												
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	40,520	45,040	43,490	45,620	50,980	55,860	47,630	43,170	47,480	42,330	39,840	39,370
1952	38,410	42,360	45,040	52,860	42,290	42,950	44,210	43,640	43,710	41,920	41,000	39,230
1953	37,480	38,660	39,070	45,040	42,530	43,280	45,760	44,180	41,580	39,910	38,510	38,790
1954	35,880	35,380	35,290	37,350	37,720	42,090	45,180	43,490	43,560	41,050	41,340	39,840
1955	43,310	42,990	48,920	41,850	45,510	43,490	46,080	45,000	41,850	40,390	41,370	40,320
1956	40,220	42,560	40,800	44,680	44,180	47,400	46,410	57,830	51,860	44,250	43,780	42,090
1957	41,030	40,660	44,610	43,890	43,240	42,920	44,180	42,260	43,240	40,860	39,300	38,800
1958	38,440	41,200	45,470	45,150	44,140	43,280	49,830	44,070	44,590	44,540	43,170	44,030
1959	43,100	43,710	42,160	54,140	44,100	43,380	44,280	43,800	43,710	44,140	42,770	41,540
1960	42,460	33,800	30,410	30,930	43,640	45,900	44,030	43,920	42,840	42,920	42,330	41,510

1415. Seneca Fork below Senecaville Dam, near Senecaville, Ohio

Location.--Lat 39°55'23", long 81°26'10", on left bank 650 ft downstream from Senecaville Dam, 1 mile downstream from Crooked Creek, 1½ miles southeast of Senecaville, Guernsey County.

Drainage area.--121 sq mi.

Records available.--September 1938 to September 1960. Published as "near Senecaville" prior to 1940.

Gage.--Water-stage recorder and concrete control. Datum of gage is 799.00 ft above mean sea level, adjustment of 1912. Prior to Jan. 24, 1942, at site 150 ft downstream at same datum.

Average discharge.--22 years (1938-60), 128 cfs.

Extremes.--1938-60: Maximum discharge, 796 cfs Jan. 26, Feb. 10, 1959; maximum gage height, 10.35 ft Feb. 1, 1949; no flow May 3, 4, 1939, Jan. 28, 29, Feb. 4, 5, Apr. 25, 1952.

Remarks.--Flow regulated by Senecaville Reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	12.4	59.1	415	450	358	375	404	135	53.0	178	20.2	14.4	206
1952	11.9	15.8	207	303	406	247	236	74.4	37.5	131	24.8	22.2	142
1953	16.5	16.0	4.56	163	137	152	199	126	48.2	15.1	2.89	11.0	73.8
1954	3.45	3.66	3.04	2.94	3.01	48.4	59.8	106	75.0	38.5	25.5	10.5	31.9
1955	91.0	44.0	148	217	347	470	114	120	62.3	21.1	12.8	9.44	137
1956	8.48	24.4	60.7	34.5	520	439	295	322	368	257	186	81.5	215
1957	26.5	13.5	137	222	254	151	321	62.3	29.9	34.6	5.67	3.23	104
1958	2.45	10.1	184	159	131	124	89.3	430	129	157	262	46.6	145
1959	26.9	35.7	142	260	589	212	157	108	49.5	22.7	25.9	6.89	133
1960	2.11	219	251	207	19.9	148	133	116	24.7	12.3	3.45	2.06	95.3

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	183	-
1951	1205	635	(a)	5.5	206	-	-	185	-
1952	1235	770	Dec. 30, 1951	0	142	-	-	126	-
1953	1275	702	Jan. 30, 1953	2.4	73.8	-	-	71.5	-
1954	1335	138	May 5-7, 11-13, 1954	1.2	31.9	-	-	54.9	-
1955	1385	782	Mar. 4, 1955	3.2	137	-	-	121	-
1956	1435	755	Mar. 14, 1956	2.2	215	-	-	222	-
1957	1505	725	(b)	.4	104	-	-	106	-
1958	1555	635	May 22, 1958	1.7	145	-	-	145	-
1959	1625	796	Jan. 26, Feb. 10, 1959	1.5	133	-	-	156	-
1960	1705	760	Dec. 15, 1959	1.4	95.3	-	-	-	-

a Dec. 10-14, 1950, Jan. 18, 20, 1951.

b Jan. 25, Feb. 12-15, 1957.

1420. Wills Creek at Cambridge, Ohio

Location.--Lat 40°00'54", long 81°35'14", on left bank at upstream side of Fairground Bridge on South Ninth Street in Cambridge, Guernsey County, 1 mile downstream from Leatherwood Creek.

Drainage area.--406 sq mi.

Records available.--June 1926 to September 1928, May 1937 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 772.34 ft above mean sea level, adjustment of 1912. Prior to Oct. 6, 1927, chain gage at site $1\frac{1}{2}$ miles downstream at different datum. Oct. 6, 1927, to Sept. 30, 1928, and May 22, 1937, to Oct. 18, 1938, chain gage at present site and datum.

Average discharge.--25 years (1926-28, 1937-60), 451 cfs (unadjusted).

Extremes.--1926-28, 1937-60: Maximum discharge, 7,860 cfs Mar. 7, 1945 (gage height, 21.32 ft); minimum, 1.6 cfs Aug. 14, 1957.

Flood of Aug. 8, 1935, reached a stage of 25.4 ft.

Remarks.--Flow regulated by Senecaville Reservoir beginning in 1938. Water is diverted above station for municipal supply of city of Cambridge; diversion not included in figures of daily discharge. Prior to 1956 the monthly average diversion was about 2 cfs. See table below for diversions 1956-60. Record of diversion furnished by the State Health Department.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	28.2	268	996	1,542	1,695	1,453	1,029	338	272	596	39.5	47.7	687
1952	33.9	217	837	1,441	1,016	819	877	253	77.4	283	52.3	33.2	494
1953	25.3	23.6	72.2	572	402	508	634	361	82.4	45.4	9.15	11.3	228
1954	3.18	4.31	7.55	48.1	25.0	345	341	310	173	51.7	87.1	12.3	118
1955	219	96.4	510	488	1,172	1,377	511	285	104	58.0	47.4	16.7	403
1956	30.4	128	112	128	1,614	1,427	946	1,344	1,052	492	436	270	660
1957	53.8	43.2	518	652	759	502	1,051	163	95.4	68.1	7.69	7.00	323
1958	17.1	96.3	641	436	281	425	410	1,277	419	498	629	296	455
1959	70.9	132	369	1,199	1,419	648	515	293	196	103	77.9	10.8	414
1960	39.4	322	648	649	483	486	308	236	81.3	31.0	16.5	6.04	275

Monthly and yearly mean diversion for city of Cambridge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	4.10	4.00	3.63	3.65	3.75	3.70	3.93	4.05	4.57	4.46	4.91	4.37	4.09
1957	4.32	4.07	3.97	3.89	4.09	4.15	4.20	4.54	5.00	5.02	5.50	5.32	4.51
1958	4.73	3.95	3.74	3.84	3.95	4.01	4.40	4.82	4.81	5.14	5.76	5.25	4.53
1959	4.78	4.79	4.25	4.39	4.56	4.56	4.55	5.95	6.84	6.83	7.09	6.14	5.39
1960	4.70	4.22	3.47	4.09	4.43	4.01	3.78	3.90	4.69	3.87	5.60	4.65	4.29

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	626	-
1951	1205	5,340	Jan. 16, 1951	16	687	-	-	670	-
1952	1235	5,080	Jan. 28, 1952	15	494	-	-	413	-
1953	1275	1,580	Jan. 29, 1953	3.5	228	-	-	219	-
1954	1335	1,840	Apr. 29, 1954	2.0	118	-	-	188	-
1955	1385	4,220	Mar. 6, 1955	6.0	403	-	-	356	-
1956	1435	5,340	May 29, 1956	14	660	-	-	690	-
1957	1505	2,560	Apr. 6, 1957	2.0	323	-	-	335	-
1958	1555	3,100	May 8, 1958	2.0	455	-	-	439	-
1959	1625	5,050	Jan. 23, 1959	2.7	414	-	-	450	-
1960	1705	1,790	Dec. 14, 1959	2.6	275	-	-	-	-

1422. Salt Fork near Cambridge, Ohio

Location.--Lat 40°05'05", long 81°27'20", in T.3 N., R.2 W., on right bank at downstream side of bridge on U.S. Highway 22 near Cambridge, Guernsey County, half a mile upstream from Brushy Fork.

Drainage area.--55.6 sq mi.

Records available.--August 1956 to September 1960.

Gage.--Water-stage recorder.

Extremes.--1956-60: Maximum discharge, 1,450 cfs Jan. 22, 1959 (gage height, 11.2 ft, from floodmark); no flow several days in each year.

Remarks.--Records of chemical analyses for the period June 1959 to September 1960, at site 4 miles downstream, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	-	-	38.7	-
1957	3.10	3.58	78.6	78.9	86.3	69.7	136	23.8	13.7	4.29	0.02	48	41.2
1958	.68	17.5	108	68.5	43.3	54.7	55.7	142	36.3	122	50.5	45.8	62.5
1959	8.64	14.5	35.0	154	145	83.1	90.3	32.3	10.2	8.67	4.55	†.26	48.3
1960	6.29	30.3	86.7	101	102	84.3	36.1	30.6	23.0	4.28	†.62	†.13	42.0

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	-	-	-	0.78	-
1957	0.06	0.07	1.63	1.64	1.81	1.44	2.73	0.49	0.27	0.09	0.0004	.10	10.13
1958	.01	.35	2.24	1.42	.81	1.13	1.12	2.94	.73	2.52	1.05	.92	15.24
1959	.18	.29	.73	3.19	2.72	1.72	1.81	.67	.20	.18	.09	.01	11.79
1960	.13	.61	1.80	2.10	1.97	1.75	.72	.63	.46	.09	.01	.002	10.27

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1956	1435	-	-	-	-	-	-	-	-
1957	1505,1625	*934	Apr. 5, 1957	0	41.2	0.741	10.13	44.7	10.97
1958	1555,1625	*1,350	May 4, 1958	0	62.5	1.12	15.24	56.8	13.84
1959	1625	*1,960	Jan. 22, 1959	0	48.3	.867	11.79	53.8	13.13
1960	1705	400	Feb. 11, 1960	0	42.0	.755	10.27	-	-

* Revised.

1430. Wills Creek Reservoir near Wills Creek, Ohio

Location.--Lat 40°09'25", long 81°50'55", in SE $\frac{1}{4}$ sec.23, T.4 N., R.6 W., at dam on Wills Creek, 1.3 miles south of village of Wills Creek, Coshocton County.

Drainage area.--844 sq mi.

Records available.--April 1938 to September 1960. Month-end contents prior to September 1939 published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 733.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Extremes.--1938-60: Maximum total contents, 122,200 acre-ft Mar. 11, 1945 (elevation, 771.38 ft); minimum, 1,880 acre-ft Oct. 22, 23, 1939 (elevation, 734.10 ft).

Remarks.--Reservoir formed by earth dam completed Oct. 13, 1937. Capacity at spillway level (elevation, 779.0 ft), 196,000 acre-ft of which 6,000 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in conduits through dam.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	5,580	7,520	6,860	8,410	12,360	12,040	9,460	6,560	10,720	6,850	5,510	5,790
1952	5,590	7,470	12,830	77,700	7,260	8,080	12,230	6,800	6,080	5,670	5,590	5,510
1953	5,500	5,600	5,670	10,620	6,970	8,060	7,680	6,360	6,200	5,540	5,250	5,280
1954	5,290	5,390	5,410	6,330	5,760	10,080	10,650	6,320	5,990	5,500	5,670	5,350
1955	6,130	6,480	11,750	6,190	10,370	7,580	8,630	6,690	5,690	5,480	5,560	5,580
1956	5,500	6,170	5,660	9,160	10,970	12,600	8,370	41,540	15,920	7,290	5,950	5,720
1957	5,650	5,750	8,260	7,990	7,560	7,390	7,660	6,450	11,450	5,660	5,370	5,420
1958	5,610	5,920	8,340	8,110	9,070	8,290	11,580	7,580	7,210	8,170	6,430	7,080
1959	5,820	6,220	6,750	26,900	8,420	7,780	12,420	7,580	6,490	6,860	5,540	5,590
1960	6,170	8,820	8,420	7,650	8,500	26,640	6,700	7,130	5,970	5,650	5,540	5,450

1435. Wills Creek below Wills Creek Dam, at Wills Creek, Ohio

Location.--Lat 40°09'40", long 81°50'45", in sec.22, T.4 N., R.6 W., on left bank 1,200 ft downstream from Wills Creek Dam, 1 mile southwest of town of Wills Creek, Coshocton County, 3 miles southeast of Conesville, and 5½ miles upstream from mouth.

Drainage area.--845 sq mi.

Records available.--October 1938 to September 1960. Published as "at Wills Creek" prior to 1940.

Gage.--Water-stage recorder. Datum of gage is 717.00 ft above mean sea level, adjustment of 1912. Prior to Feb. 18, 1939, staff gage and Feb. 18, 1939, to Sept. 30, 1949, water-stage recorder, at site 1,500 ft downstream at same datum.

Average discharge.--22 years (1938-60), 903 cfs.

Extremes.--1938-60: Maximum discharge, 6,930 cfs Mar. 7, 1940 (gage height, 17.40 ft, site then in use); minimum, 0.9 cfs Oct. 28, 29, 1948, Apr. 5, 6, 1951; minimum daily, 1 cfs Aug. 10, Oct. 27-29, 1948, Jan. 28, 1952.

Maximum discharge known, 22,300 cfs in March 1913 (computed by Corps of Engineers).

Remarks.--Flow regulated by Wills Creek and Senecaville Reservoirs. Records of chemical analyses for the period October 1957 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	66.8	461	2,327	5,097	3,179	2,947	2,117	792	487	1,006	84.7	78.1	1,379
1952	58.5	502	1,717	2,323	3,454	1,782	2,015	705	166	398	87.0	50.4	1,097
1953	37.4	57.7	146	931	825	953	1,127	809	178	172	30.6	16.4	428
1954	12.8	16.3	33.3	129	92.6	849	858	751	243	84.6	102	37.2	269
1955	379	132	767	1,048	2,264	2,973	1,155	492	164	99.7	80.1	23.0	792
1956	47	288	179	116	3,132	2,735	2,139	1,983	2,327	880	687	480	1,238
1957	104	82.4	851	1,147	1,261	1,003	2,112	595	293	327	34.7	30.1	649
1958	29.3	165	1,209	905	538	974	882	2,685	739	1,092	1,001	439	866
1959	190	209	552	2,103	3,636	1,513	1,149	993	577	177	220	34.8	928
1960	209	553	1,360	1,449	1,162	943	1,075	566	356	110	54.3	31.4	655

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,338	-
1951	1205	5,980	Dec. 13, 1950	41	1,379	-	-	1,330	-
1952	1235	5,860	Feb. 14, 1952	1	1,097	-	-	926	-
1953	1275	2,880	Mar. 27, 1953	8.5	436	-	-	423	-
1954	1335	2,440	Apr. 30, 1954	11	269	-	-	371	-
1955	1385	5,800	Mar. 13, 1955	11	792	-	-	727	-
1956	1435	5,620	Mar. 15, 1956	2	1,238	-	-	1,263	-
1957	1505	5,050	Apr. 11, 1957	16	649	-	-	679	-
1958	1555	5,570	May 13, 15, 1958	15	866	-	-	847	-
1959	1625	5,810	Jan. 31, Feb. 21	20	928	-	-	1,028	-
1960	1705	4,100	Apr. 5, 1960	19	655	-	-	-	-

1440. Wakatomika Creek near Frazeyburg, Ohio

Location.--Lat 40°07'57", long 82°08'53", in NW¼ sec.13, T.3 N., R.9 W., on right bank 2 miles northwest of Frazeyburg, Muskingum County, 2 miles downstream from Fivemile Run and 2½ miles upstream from Black Run.

Drainage area.--140 sq mi.

Records available.--September 1936 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 748.12 ft above mean sea level, adjustment of 1912. Prior to Oct. 31, 1936, staff gage at same site and datum.

Average discharge.--24 years (1936-60), 149 cfs.

Extremes.--1936-60: Maximum discharge, 13,700 cfs Jan. 22, 1959 (gage height, 13.15 ft), from rating curve extended above 7,700 cfs on basis of contracted-opening measurement of peak flow; minimum, 2.3 cfs Oct. 4, 5, 1953; minimum gage height, 1.08 ft Sept. 8, 9, 1955.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	16.6	84.6	351	381	464	435	275	115	61.9	37.0	9.04	11.7	187
1952	11.8	65.0	288	682	332	419	423	139	31.7	21.7	10.8	6.55	203
1953	7.38	9.52	18.4	156	119	121	161	153	42.1	20.3	8.95	3.45	68.1
1954	5.14	7.39	11.3	29.0	23.8	173	204	106	32.3	14.0	11.0	5.40	51.9
1955	62.0	24.1	90.5	108	293	449	213	56.0	17.3	12.7	7.08	4.53	110
1956	7.74	60.0	29.0	34.9	469	329	268	396	219	151	65.4	23.2	170
1957	13.5	12.5	86.7	131	131	131	532	150	239	114	12.2	14.6	130
1958	18.5	56.9	326	137	81.5	148	220	323	78.2	499	62.2	37.7	146
1959	22.5	26.6	41.1	576	440	218	170	168	65.3	56.0	47.4	10.9	154
1960	107	181	288	305	303	210	166	140	132	50.8	17.2	6.19	159

MUSKINGUM RIVER BASIN

Monthly and yearly runoff, in inches, of Wakatomika Creek near Frazeysburg, Ohio

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.14	0.67	2.89	3.14	3.60	3.58	2.19	0.95	0.49	0.30	0.07	0.09	18.11
1952	.09	.52	2.58	5.62	2.56	3.45	3.37	1.14	.25	.18	.09	.05	19.70
1953	.06	.08	.15	1.28	.89	1.00	1.28	1.26	.34	.17	.07	.03	6.61
1954	.04	.06	.09	.24	.18	1.43	1.63	.87	.26	.12	.09	.04	5.05
1955	.51	.19	.74	.89	2.18	3.70	1.70	.46	.14	.10	.06	.04	10.71
1956	.06	.48	.24	.29	3.61	2.71	2.13	3.26	1.74	1.24	.54	.19	16.49
1957	.11	.10	.71	1.08	.97	1.08	4.24	1.23	1.91	.94	.10	.12	12.59
1958	.15	.45	2.69	1.13	.61	1.22	1.75	2.66	.62	2.05	.51	.30	14.14
1959	.19	.21	.54	4.74	3.27	1.80	1.35	1.54	.52	.46	.39	.09	14.90
1960	.88	1.44	2.58	2.51	2.33	1.73	1.33	1.15	1.05	.42	.14	.06	15.42

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Runoff in inches
		Discharge	Date					
1950	-	-	-	-	-	-	216	20.97
1951	1205	4,900	Dec. 8, 1950	6.4	187	1.34	18.11	17.40
1952	1255	10,000	Jan. 27, 1952	4.1	203	1.45	19.70	17.00
1953	1275	1,160	Jan. 18, 1953	2.7	68.1	.486	6.61	6.51
1954	1335	1,220	Mar. 29, 1954	2.7	51.9	.371	5.05	6.50
1955	1385	4,250	Mar. 4, 1955	3.2	110	.786	10.71	10.05
1956	1435	5,090	July 9, 1956	5.2	170	1.21	16.49	16.63
1957	1505	3,890	Apr. 4, 1957	8.0	130	.929	12.59	14.96
1958	1555	3,700	May 4, 1958	8.0	146	1.04	14.14	11.59
1959	1625	13,700	Jan. 22, 1959	8.0	154	1.10	14.90	18.86
1960	1705	2,400	Feb. 11, 1960	7.0	159	1.14	16.42	-

1445. Muskingum River at Dresden, Ohio

Location.--Lat 40°07'14", long 82°00'02", on left bank 70 ft downstream from bridge on State Highway 208, half a mile east of Dresden, Muskingum County, and half a mile downstream from Wakatomika Creek.

Drainage area.--5,982 sq mi.

Records available.--September 1921 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 693.15 ft above mean sea level, adjustment of 1912. Prior to Aug. 24, 1925, chain or staff gage at about same site and datum.

Average discharge.--39 years (1921-60), 6,168 cfs.

Extremes.--1921-60: Maximum discharge, 100,000 cfs Aug. 9, 1935 (gage height, 31.6 ft); minimum, 335 cfs June 25, 1925 (gage height, 2.73 ft).

Maximum stage known, 46.0 ft in March 1913, present site and datum, from floodmark (discharge, 228,000 cfs, computed by Corps of Engineers).

Remarks.--Flow regulated by 14 flood-control reservoirs. Records of suspended sediment loads and water temperatures for the period October 1952 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,075	3,534	12,760	17,720	19,720	18,580	15,120	6,931	3,367	3,614	1,119	1,192	8,652
1952	945	3,126	10,240	21,190	21,280	13,890	14,310	5,777	2,062	1,887	1,323	1,036	8,049
1953	811	990	1,413	5,963	5,492	5,892	6,993	8,293	2,967	2,050	1,049	684	3,538
1954	699	603	896	1,268	1,316	6,176	10,379	5,566	1,959	865	877	597	2,600
1955	3,678	1,378	3,526	6,493	11,460	19,990	8,292	3,159	1,482	1,555	1,050	641	5,199
1956	889	3,456	1,737	1,276	16,490	19,860	10,850	15,610	14,210	6,372	5,262	2,737	8,186
1957	1,192	1,516	3,975	5,865	6,157	6,361	20,040	9,100	6,238	6,905	1,316	1,954	5,866
1958	1,172	2,539	10,040	6,138	3,699	5,986	6,589	14,520	3,935	9,315	9,408	3,685	6,448
1959	2,129	1,969	2,762	12,940	26,160	12,680	8,309	9,642	5,150	2,952	2,331	1,346	7,243
1960	3,772	5,802	10,550	11,591	9,813	6,475	10,203	4,631	4,187	2,123	1,631	1,085	9,975

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Runoff in inches
		Discharge	Date					
1950	-	-	-	-	-	-	8,768	-
1951	1205	31,200	Dec. 8, 1950	850	8,652	-	8,411	-
1952	1235	45,200	Jan. 27, 1952	820	8,049	-	7,115	-
1953	1275	14,800	May 25, 1953	545	3,539	-	3,452	-
1954	1335	19,600	Mar. 31, 1954	460	2,600	-	3,142	-
1955	1385	28,100	Mar. 4, 1955	468	5,199	-	4,981	-
1956	1435	26,900	Feb. 26, 1956	623	8,186	-	8,242	-
1957	1505	27,800	Apr. 10, 1957	848	5,866	-	6,463	-
1958	1555	26,000	May 5, 1958	932	6,448	-	5,865	-
1959	1625	39,400	Jan. 22, 1959	890	7,243	-	8,559	-
1960	1705	25,600	Mar. 30, 1960	805	5,975	-	-	-

1465. Licking River near Newark, Ohio

Location.--Lat 40°03'33", long 82°20'23", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ T.2 N., R.11 W., on right bank at downstream side of Stadden Bridge, 1 mile downstream from Shawnee Run, $1\frac{1}{2}$ miles upstream from Equality Run, and $3\frac{1}{2}$ miles east of Newark, Licking County.

Drainage area.--536 sq mi.

Records available.--October 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 779.02 ft above mean sea level, datum of 1929, supplementary adjustment of 1944. Prior to May 9, 1940, chain gage at same site and datum.

Average discharge.--21 years (1939-60), 545 cfs.

Extremes.--1939-60: Maximum discharge, 45,000 cfs Jan. 21, 1959 (gage height, 20.3 ft, from high-water mark), from rating curve extended above 24,000 cfs on basis of flood-routing studies from station at Toboso; minimum, 15 cfs Jan. 12, 1954, result of freezeup.

Remarks.--Flow slightly regulated by Buckeye Lake on South Fork. Gates operated intermittently to maintain normal lake level.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	97.1	452	1,800	1,892	2,081	1,580	950	312	222	131	68.0	57.9	797
1952	101	169	1,159	2,551	1,410	1,393	1,414	287	137	120	70.9	54.1	739
1953	82.6	43.9	55.7	347	433	354	414	401	155	313	94.4	42.9	227
1954	39.5	41.1	43.1	112	79.4	476	568	237	115	58.5	64.7	36.7	156
1955	81.3	57.6	215	378	1,359	1,401	463	156	96.8	99.9	80.9	48.4	364
1956	78.2	411	132	171	1,596	1,200	996	1,308	1,126	895	241	109	684
1957	69.5	63.2	450	504	540	366	1,643	642	733	346	90.0	87.0	459
1958	73.7	203	1,372	570	316	527	759	1,025	950	1,198	529	262	651
1959	119	107	170	2,306	1,879	795	494	414	256	150	98.4	61.4	564
1960	118	388	983	1,093	1,228	673	483	371	254	157	96.8	58.3	490

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.21	0.94	3.87	4.07	4.04	3.40	1.98	0.67	0.46	0.28	0.15	0.12	20.19
1952	.22	.35	2.49	5.49	2.84	3.00	2.94	.62	.29	.26	.15	.11	18.76
1953	.18	.09	.12	.75	.84	.76	.86	.32	.67	.20	.09	.08	5.74
1954	.09	.09	.09	.24	1.15	1.02	1.18	.51	.24	.13	.14	.08	3.96
1955	.18	.12	.46	.81	2.64	3.01	.96	.34	.20	.21	.17	.10	9.20
1956	.17	.86	.28	.37	3.21	2.58	2.08	2.81	2.34	1.92	.52	.23	17.37
1957	.15	.13	.97	1.08	1.05	.79	3.42	1.38	1.53	.74	.19	.18	11.61
1958	.16	.42	2.95	1.22	1.61	1.13	1.58	2.20	1.94	2.58	1.14	.55	16.48
1959	.26	.22	.37	4.96	3.66	1.71	1.03	.89	.53	.32	.21	.13	14.29
1960	.25	.81	2.11	2.35	2.47	1.45	1.01	.80	.53	.34	.21	.12	12.45

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	850	21.53
1951	1205	15,400	Dec. 7, 1950	53	797	1.49	20.19	720	18.23
1952	1235	25,000	Jan. 27, 1952	44	733	1.38	18.76	633	16.08
1953	1275	3,860	July 2, 1953	36	227	.424	5.74	222	5.62
1954	1335	4,560	Apr. 17, 1954	28	156	.291	3.96	176	4.45
1955	1385	8,720	Mar. 4, 1955	32	364	.679	9.20	386	9.75
1956	1435	12,300	June 22, 1956	44	684	1.28	17.37	682	17.31
1957	1505	12,900	Apr. 4, 1957	59	459	.856	11.61	549	13.89
1958	1555	10,500	May 4, 1958	63	651	1.21	16.48	545	13.80
1959	1625	45,000	Jan. 21, 1959	47	564	1.05	14.29	656	16.61
1960	1705	9,360	Feb. 11, 1960	47	490	.914	12.45	-	-

MUSKINGUM RIVER BASIN

1470. Licking River at Toboso, Ohio

Location.--Lat 40°03'26", long 82°13'12", on right bank 30 ft downstream from highway bridge at Toboso, Licking County, and 3 miles downstream from Rocky Fork.

Drainage area.--672 sq mi.

Records available.--November 1902 to July 1906 (published as "at Pleasant Valley"), September 1921 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 744.84 ft above mean sea level, adjustment of 1912. Nov. 14, 1902, to July 21, 1906, staff or chain gage at site 8½ miles downstream at different datum. Sept. 21, 1921, to Sept. 19, 1929, chain gage at site 30 ft upstream at present datum.

Average discharge.--41 years (1903-5, 1921-60), 671 cfs.

Extremes.--1902-6, 1921-60: Maximum discharge, 49,800 cfs Jan. 22, 1959 (gage height, 21.08 ft); minimum, 34 cfs Jan. 1, 1931.

Flood in March 1913 reached a stage of 20.0 ft (discharge, 35,000 cfs, computed by Muskingum Watershed Conservancy District).

Remarks.--Flow slightly regulated by Buckeye Lake on South Fork. Gates operated intermittently to maintain normal lake level. Records of chemical analyses for the period October 1957 to September 1958 are published in reports of the Geological Survey.

Corrections.--In WSP 1305, figures of discharge and runoff were omitted for January and February 1904; those figures are given herewith:

Month	Mean	Per square mile	Runoff in inches
January 1904.....	1,122	-	1.86
February.....	1,150	-	1.78
Water year 1903-4.....	654	0.940	12.79
Calendar year 1904.....	648	-	12.67

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	120	522	2,077	2,272	2,557	1,971	1,222	428	276	178	81.8	75.6	974
1952	117	224	1,386	3,159	1,732	1,794	1,569	446	179	157	83.8	70.2	911
1953	104	88.6	79.4	489	540	453	568	532	192	368	117	52.5	296
1954	51.8	56.6	61.0	138	97.9	599	764	365	154	74.8	95.5	56.3	210
1955	130	81.1	285	481	1,593	1,766	649	226	123	144	106	75.9	465
1956	95.8	524	194	215	2,001	1,521	1,341	1,703	1,378	1,066	330	172	873
1957	100	89.9	572	677	731	525	2,182	808	983	423	112	110	606
1958	95.7	263	1,795	709	369	648	965	1,358	1,083	1,506	605	302	813
1959	155	149	227	2,676	2,165	931	595	533	312	198	137	83.9	689
1960	176	463	1,162	1,353	1,504	839	613	517	352	228	117	76.8	615

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.21	0.87	3.56	3.90	3.97	3.38	2.03	0.73	0.46	0.31	0.14	0.12	19.68
1952	.20	.37	2.38	5.42	2.82	3.08	2.60	.77	.30	.27	.14	.12	18.47
1953	.18	.11	.14	.84	.84	.78	.94	.91	.32	.63	.20	.09	5.98
1954	.09	.09	.10	.24	.15	1.03	1.27	.63	.26	.13	.16	.09	4.24
1955	.22	.14	.49	.83	2.47	3.03	1.08	.39	.20	.25	.18	.13	9.41
1956	.16	.87	.33	.37	3.21	2.61	2.23	2.92	2.29	1.83	.57	.29	17.68
1957	.17	.15	.98	1.16	1.14	.90	3.63	1.38	1.63	.73	.19	.18	12.24
1958	.16	.44	3.08	1.22	.57	1.11	1.61	2.33	1.80	2.58	1.04	.50	16.44
1959	.27	.25	.39	4.93	3.35	1.60	.99	.91	.52	.34	.24	.14	13.93
1960	.30	.77	1.99	2.32	2.42	1.44	1.02	.89	.58	.39	.20	.13	12.45

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1950	-	-	-	-	-	-	-	1,066
1951	1205	18,400	Dec. 8, 1950	67	974	1.45	19.68	890
1952	1235	32,500	Jan. 27, 1952	58	911	1.36	18.47	787
1953	1275	3,980	July 2, 1953	47	296	.440	5.98	289
1954	1335	5,100	Apr. 17, 1954	44	210	.312	4.24	238
1955	1385	9,200	Mar. 5, 1955	52	465	.692	9.41	491
1956	1435	11,100	May 28, 1956	59	873	1.30	17.68	869
1957	1505	12,900	Apr. 5, 1956	75	606	.902	12.24	723
1958	1555	11,600	May 4, 1958	84	813	1.21	16.44	676
1959	1625	49,800	Jan. 22, 1959	65	689	1.03	13.93	796
1960	1705	10,500	Feb. 11, 1960	69	615	.915	12.45	-

1475. Licking River at Dillon, Ohio

Location.--Lat 39°58'15", long 82°03'25", in T.1 N., R.8 W., on downstream side of center pier of highway bridge at Dillon, Muskingum County, 3 miles northwest of Zanesville and 3¼ miles upstream from mouth.

Drainage area.--754 sq mi.

Records available.--October 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 683.7 ft above mean sea level, adjustment of 1912 (Corps of Engineers bench mark). Prior to Oct. 27, 1940, at site a third of a mile upstream at different datum.

Average discharge.--21 years (1939-60), 760 cfs.

Extremes.--1939-60: Maximum discharge, 47,000 cfs Jan. 22, 1959 (gage height, 32.46 ft), from rating curve extended above 30,000 cfs on basis of slope-area measurement of peak flow; minimum, 36 cfs Feb. 13, 1944, result of freezeup.

Maximum stage known, 37.0 ft in March 1913, from floodmark (backwater from Muskingum River), discharge, 39,000 cfs, computed by Corps of Engineers.

Remarks.--Flow slightly regulated by Buckeye Lake on South Fork. Gates operated intermittently to maintain normal lake level. Slight regulation beginning in 1960 during construction of Dillon Dam.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	123	590	2,174	2,633	3,055	2,427	1,467	543	335	217	90.2	80.6	1,135
1952	156	351	1,604	3,561	1,991	1,978	1,759	581	214	191	91.3	81.5	1,045
1953	115	82.0	101	512	595	525	634	612	221	391	125	59.1	330
1954	57.9	65.3	77.5	168	131	701	933	449	166	81.1	90.7	57.1	250
1955	157	89.6	316	505	1,783	1,999	780	275	137	153	109	75.3	524
1956	99.5	533	196	218	2,238	1,814	1,586	1,965	1,594	1,087	365	184	983
1957	108	97.6	552	727	823	562	2,464	916	998	502	118	110	662
1958	94.4	258	1,943	795	397	708	1,077	1,636	1,270	1,844	692	357	929
1959	176	153	251	3,055	2,497	1,097	716	643	325	193	141	88.5	767
1960	193	512	1,189	1,363	1,550	822	819	535	351	210	142	86.7	645

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.19	0.87	3.32	4.02	4.22	3.71	2.18	0.83	0.50	0.33	0.14	0.12	20.43
1952	.24	.49	2.46	5.44	2.85	3.02	2.60	.89	.32	.29	.14	.12	18.86
1953	.18	.12	.15	.78	.82	.80	.94	.94	.33	.60	.19	.09	5.94
1954	.09	.10	.12	.26	.16	1.07	1.38	.69	.28	.12	.14	.08	4.51
1955	.24	.13	.48	.77	2.46	3.06	1.15	.42	.20	.23	.17	.11	9.42
1956	.15	.79	.30	.33	3.20	2.78	2.34	3.01	2.35	1.66	.56	.27	17.74
1957	.16	.14	.84	1.11	1.14	.86	3.67	1.40	1.47	.77	.18	.16	11.90
1958	.14	.38	2.97	1.21	.55	1.06	1.60	2.50	1.87	2.82	1.06	.53	16.71
1959	.27	.23	.35	4.67	3.45	1.67	1.06	.98	.48	.30	.22	.13	13.81
1960	.30	.76	1.82	2.09	2.22	1.26	1.22	.82	.52	.32	.22	.13	11.68

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,154	20.78
1951	1205	15,800	Dec. 8, 1950	72	1,135	1.51	20.43	1,068	19.24
1952	1235	29,800	Jan. 27, 1952	68	1,045	1.39	18.86	893	16.12
1953	1275	4,030	July 2, 1953	52	330	.438	5.94	321	5.80
1954	1335	4,830	Apr. 17, 1954	44	250	.332	4.51	281	5.05
1955	1385	9,020	Mar. 5, 1955	58	524	.695	9.42	546	9.81
1956	1435	10,900	May 28, 1956	65	983	1.30	17.74	978	17.64
1957	1505	14,800	Apr. 5, 1957	77	662	.878	11.90	793	14.25
1958	1555	12,400	May 5, 1958	79	929	1.23	16.71	782	14.07
1959	1625	47,000	Jan. 22, 1959	71	767	1.02	13.81	879	15.84
1960	1705	6,380	Feb. 12, 1960	78	645	.855	11.68	-	-

1480. Muskingum River at Zanesville, Ohio

Location.--Lat 39°56'07", long 82°00'26", at Sixth Street Bridge in Zanesville, Muskingum County, 1,000 ft upstream from lock 10, half a mile downstream from Licking River, 0.6 mile downstream from dam 10, and 2.2 miles upstream from Moxahala Creek.

Drainage area.--6,844 sq mi.

Records available.--April 1905 to December 1912 (gage heights and discharge measurements only), October 1939 to September 1955. Gage-height records collected at lock 10 since June 1887, by Corps of Engineers, are contained in reports of U.S. Weather Bureau.

Gage.--Wire-weight gage. Datum of gage is 665.0 ft above mean sea level, adjustment of 1912. Prior to Dec. 20, 1939, staff gage at site 1,000 ft downstream at same datum.

Average discharge.--16 years (1939-55), 6,853 cfs.

Extremes.--1939-55: Maximum discharge, 80,900 cfs Jan. 27, 1952 (gage height, 29.6 ft, from graph based on gage readings); minimum daily, 420 cfs Jan. 7, 1940. Maximum stage known, 51.8 ft Mar. 27, 1913, from gage readings by Corps of Engineers. Flood of Jan. 22, 1959, reached a stage of 30.7 ft from gage readings by U.S. Weather Bureau.

Remarks.--Flow regulated by 14 flood-control reservoirs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,201	3,979	15,080	20,890	23,460	21,080	16,700	7,475	3,717	3,850	1,219	1,293	9,924
1952	1,124	3,527	11,590	25,010	23,850	16,140	16,220	6,109	2,334	2,054	1,426	1,145	9,168
1953	933	1,105	1,575	6,603	6,173	6,514	7,692	9,015	3,202	2,454	1,206	748	3,925
1954	748	675	974	1,441	1,460	6,800	11,320	6,050	2,146	947	968	658	2,651
1955	3,754	1,479	3,855	7,169	13,530	22,060	8,938	3,495	1,630	1,729	1,171	724	5,758

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	10,100	-
1951	1205	50,000	Dec. 8, 1950	930	9,924	-	-	9,584	-
1952	1235	80,900	Jan. 27, 1952	920	9,168	-	-	8,105	-
1953	1275	15,700	May 24, 1953	610	3,925	-	-	3,823	-
1954	1335	21,200	Mar. 31, 1954	505	2,651	-	-	3,417	-
1955	1385	42,600	Mar. 5, 1955	535	5,758	-	-	-	-

1500. Muskingum River at McConnelsville, Ohio

Location.--Lat 39°38'40", long 81°51'00", in SE $\frac{1}{4}$ sec.11, T.10 N., R.12 W., on left bank just upstream from dam 7, at McConnelsville, Morgan County, and 3 $\frac{1}{2}$ miles downstream from Oilspring Run.

Drainage area.--7,411 sq mi.

Records available.--October 1921 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 650.31 ft above mean sea level, adjustment of 1912. Prior to July 27, 1922, chain gage at site half a mile upstream at same datum. July 27, 1922, to Aug. 10, 1926, staff gage and Aug. 11, 1926, to Sept. 8, 1959, water-stage recorder, at present site and datum. Sept. 9, 1959, to July 18, 1960, wire-weight gage at site half a mile upstream at same datum.

Average discharge.--39 years (1921-60), 7,268 cfs.

Extremes.--1921-60: Maximum discharge, 126,000 cfs Jan. 26, 1937 (gage height, 21.14 ft); minimum, 218 cfs Aug. 25, 1930 (gage height, -0.65 ft), from rating curve extended below 470 cfs. Maximum stage known, 33.5 ft Mar. 27, 1913 (discharge, 270,000 cfs, computed by Corps of Engineers).

Remarks.--Flow regulated by 14 flood-control reservoirs. Some regulation at low flow by powerplant above station. Records for chemical analyses and water temperatures for the periods October 1950 to September 1951, October 1954 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second, of
Muskingum River at McConnesville, Ohio

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,503	3,937	16,180	21,950	24,470	22,660	17,230	7,445	3,905	3,977	1,267	1,281	10,400
1952	1,124	3,493	12,300	26,340	25,120	17,150	17,150	6,565	2,632	2,455	1,598	1,137	9,695
1953	991	1,128	1,641	6,789	6,344	6,639	8,090	9,269	3,299	2,462	1,233	749	4,036
1954	746	731	1,023	1,535	1,541	6,785	10,950	6,110	2,343	1,027	1,063	698	2,881
1955	3,591	1,680	4,029	6,779	13,580	21,990	9,026	3,699	1,894	1,895	1,210	688	5,801
1956	1,137	3,863	2,061	1,615	18,670	21,740	12,540	17,420	15,070	7,381	5,490	3,247	9,140
1957	1,540	1,763	4,823	6,709	7,390	7,090	22,540	9,832	8,753	7,221	1,511	1,950	6,570
1958	1,328	2,806	11,920	6,939	4,159	6,804	7,787	16,240	5,907	11,600	10,010	4,380	7,540
1959	2,568	2,394	3,339	16,500	29,380	14,380	9,000	10,300	5,610	3,427	2,620	1,630	8,298
1960	4,232	6,608	11,760	13,090	11,650	7,703	10,880	5,395	4,493	2,353	1,772	1,201	6,745

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	10,530	-
1951	1205	50,500	Dec. 8, 1950	850	10,400	-	-	10,010	-
1952	1235	82,800	Jan. 29, 1952	940	9,695	-	-	8,586	-
1953	1275	16,100	May 24, 1953	610	4,036	-	-	3,930	-
1954	1335	21,800	Mar. 31, 1954	385	2,881	-	-	3,456	-
1955	1385	47,900	Mar. 5, 1955	464	5,801	-	-	5,604	-
1956	1435	35,400	May 28, 1956	780	9,140	-	-	9,238	-
1957	1505	43,200	Apr. 5, 1957	894	6,570	-	-	7,239	-
1958	1555	40,300	May 5, 1958	1,060	7,540	-	-	6,882	-
1959	1625	81,600	Jan. 23, 1959	1,000	8,298	-	-	9,501	-
1960	1705	30,000	Mar. 30, 1960	900	6,745	-	-	-	-

OHIO RIVER MAIN STEM

1510. Ohio River at Parkersburg, W. Va.

Location.--Lat 39°16'05", long 81°33'50", on left bank on downstream side of bridge on U.S. Highway 50 at Parkersburg, Wood County, 0.3 mile upstream from Little Kanawha River, and at mile 184.4.

Drainage area.--35,600 sq mi, approximately.

Records available.--January 1940 to September 1960. Gage-height records collected at same site since 1888 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 562.01 ft above mean sea level, Sandy Hook datum. Prior to Apr. 25, 1950, at Baltimore & Ohio Railroad bridge 0.3 mile downstream at same datum. Auxiliary water-stage recorder 0.4 mile downstream from lock and dam 18 and 4.0 miles upstream from base gage; prior to Nov. 13, 1948, at lock 18.

Average discharge.--20 years (1940-60), 50,710 cfs.

Extremes.--1940-60: Maximum discharge, 440,000 cfs Jan. 1, 1943; maximum gage height, 49.03 ft Jan. 1, 1943; minimum daily discharge recorded, 2,290 cfs Oct. 1, 1955. Maximum stage known, 58.9 ft Mar. 29, 1913 (discharge, 593,000 cfs).

Remarks.--Flow partly regulated by locks, dams, and reservoirs upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	17,380	61,930	120,000	126,000	134,600	118,500	113,800	53,200	48,590	30,990	8,140	7,362	69,640
1952	6,296	27,830	68,360	162,800	103,600	93,760	86,930	77,270	19,820	10,140	9,810	7,032	56,630
1953	5,500	11,730	28,940	64,820	61,100	75,790	76,320	76,410	40,560	12,280	10,570	7,654	39,190
1954	5,085	5,915	14,960	30,660	35,540	75,660	77,960	44,770	24,280	9,988	20,160	9,646	29,500
1955	68,000	26,120	57,320	63,730	93,610	153,800	59,980	27,660	22,690	11,650	17,100	6,681	51,090
1956	17,430	40,510	28,170	17,320	137,800	146,800	109,000	109,500	70,130	53,590	66,200	32,880	68,800
1957	15,810	16,730	71,710	68,110	82,290	59,750	129,200	39,640	21,900	22,030	6,766	8,018	44,700
1958	8,531	14,640	73,210	47,600	35,650	66,450	78,240	98,230	31,920	68,040	60,460	29,600	51,310
1959	17,490	27,230	31,360	103,100	121,800	80,560	74,340	58,740	24,120	16,780	12,990	7,699	47,570
1960	23,050	43,860	83,710	90,400	72,280	45,090	105,900	63,500	35,410	14,220	12,970	12,820	50,390

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	69,670	26.57
1951	1205	327,000	Dec. 6, 1950	-	69,640	1.96	26.55	61,510	23.44
1952	1235	408,000	Jan. 29, 1952	2,590	56,630	1.59	21.64	51,900	19.85
1953	1275	148,000	Mar. 27, 1953	3,480	39,190	1.10	14.94	37,490	14.28
1954	1335	165,000	Mar. 5, 1954	-	29,500	.829	11.23	40,100	15.28
1955	1385	322,000	Oct. 18, 1954	5,200	51,090	1.44	19.49	45,500	17.35
1956	1435	289,000	Mar. 10, 1956	2,290	68,800	1.93	26.30	70,230	26.85
1957	1505	244,000	Apr. 6, 1957	5,820	44,700	1.26	17.05	44,210	16.87
1958	1555	224,000	May 9, 1958	5,360	51,310	1.44	19.56	49,550	18.89
1959	1625	364,000	Jan. 24, 1959	5,130	47,570	1.34	18.14	53,860	20.53
1960	1705	286,000	Apr. 2, 1960	7,600	50,390	1.42	19.27	-	-

* Not previously published.

Note.--Figures of monthly discharge in cubic feet per second per square mile and runoff in inches previously published in water-supply papers may be subject to considerable error because of regulation by several reservoirs upstream. Those figures should not be used.

1515. Little Kanawha River near Burnsville, W. Va.

Location.--Lat 38°49'25", long 80°35'35", on left bank at downstream side of bridge on State Highway 5, 0.1 mile downstream from Knawl Creek and 4 miles southeast of Burnsville, Braxton County.

Drainage area.--155 sq mi.

Records available.--October 1937 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 756.09 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers). Prior to Feb. 25, 1940, staff gage at site 100 ft upstream at same datum.

Average discharge.--23 years (1937-60), 280 cfs.

Extremes.--1937-60: Maximum discharge, 9,200 cfs Feb. 3, 1939 (gage height, 19.04 ft); minimum, 0.01 cfs Nov. 15-21, 1953; minimum gage height, -0.01 ft Oct. 21, 1953. Flood in March 1918 reached a stage of 19.7 ft, from floodmark (discharge, about 9,800 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	136	290	679	487	748	598	539	265	227	28.5	1.82	12.5	332
1952	2.71	148	427	854	168	337	367	333	65.9	28.4	46.6	15.1	234
1953	4.60	12.6	173	499	446	360	413	425	18.8	21.3	14.3	.82	198
1954	.115	.029	51.2	317	177	494	282	134	97.6	621	230	38.3	205
1955	402	154	421	325	840	833	187	115	93.3	19.3	16.8	1.97	282
1956	22.3	66.4	85.9	252	901	783	362	340	301	165	445	148	321
1957	80.0	173	615	684	745	337	353	94.2	143	52.8	1.75	3.37	271
1958	66.0	45.4	478	440	520	420	542	516	167	681	588	30.3	375
1959	21.6	89.1	120	440	346	287	492	320	190	101	127	21.3	212
1960	56.8	395	476	599	422	373	359	215	24.2	35.2	56.4	78.4	257

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.01	2.09	5.05	3.63	5.03	4.45	3.88	1.97	1.64	0.21	0.01	0.09	29.06
1952	.02	1.07	3.17	6.35	1.17	2.51	2.64	2.48	.47	.21	.35	.11	20.55
1953	.03	.09	1.29	3.71	3.00	2.68	2.97	3.16	.14	.16	.11	.006	17.35
1954	.0009	.0002	.38	2.36	1.19	3.67	2.03	1.00	.70	4.62	1.71	.28	17.94
1955	2.99	1.11	3.13	2.42	5.65	6.19	1.35	.86	.67	.14	.13	.01	24.65
1956	.17	.48	.64	1.87	6.27	5.83	2.61	2.53	2.17	1.22	3.31	1.07	28.17
1957	.59	1.25	4.57	5.09	5.00	2.51	2.54	.70	1.03	.39	.01	.02	23.70
1958	.49	.33	3.56	3.27	3.49	3.12	3.90	3.84	1.21	5.06	4.37	.22	32.86
1959	.16	.64	.89	3.27	2.32	2.13	3.54	2.38	1.37	.75	.94	.15	18.54
1960	.42	2.85	3.54	4.46	2.94	2.78	2.59	1.60	.17	.26	.42	.56	22.59

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	446	39.07
1951	1205	5,390	Dec. 4, 1950	1.1	332	2.14	29.06	287	25.17
1952	1235	5,220	Jan. 27, 1952	1.3	234	1.51	20.55	202	17.70
1953	1275	3,000	May 20, 1953	.2	198	1.28	17.35	186	16.32
1954	1335	6,250	July 19, 1954	.01	205	1.32	17.94	283	24.79
1955	1385	6,090	Oct. 16, 1954	.1	282	1.82	24.65	214	18.71
1956	1435	4,240	May 28, 1956	2.5	321	2.07	28.17	379	33.29
1957	1505	5,280	Jan. 29, 1957	.02	271	1.75	23.70	247	21.67
1958	1555	5,030	Aug. 8, 1958	1	375	2.42	32.86	345	30.17
1959	1625	3,230	Jan. 22, 1959	3.8	212	1.37	18.54	270	23.66
1960	1705	4,250	Nov. 28, 1959	4.8	257	1.66	22.59	-	-

1520. Little Kanawha River at Glenville, W. Va.

Location.--Lat 38°56'00", long 80°50'20", on right bank at highway bridge at Glenville, Gilmer County, 1,000 ft upstream from Sycamore Run.

Drainage area.--386 sq mi.

Records available.--June 1915 to September 1922 (gage heights only), October 1928 to September 1960. Monthly discharge only for October to December 1928, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 697.79 ft above mean sea level, adjustment of 1912. June 1915 to Sept. 30, 1922, staff gage and Dec. 10, 1928, to Dec. 13, 1934, chain gage, at bridge 300 ft upstream at same datum. Auxiliary wire-weight gage read twice daily 2.7 miles downstream from base gage.

Average discharge.--32 years (1928-60), 600 cfs.

Extremes.--1915-22, 1928-60: Maximum discharge, 20,400 cfs Apr. 16, 1939, from graph of discharge adjusted for changing stage; maximum gage height, 33.22 ft Apr. 17, 1939, from floodmarks; no flow at times in September and October 1930 and 1932. Maximum stage known, 33.6 ft Nov. 16, 1926.

Revisions.--The Montgomery maximum discharge for the water year 1947, published in WSP 1305, has been revised to 5,410 cfs.

Remarks.--Records of water temperatures for the period October 1946 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	191	207	1,724	1,228	1,900	1,519	1,273	521	527	162	15.4	30.3	840
1952	3.64	351	1,032	1,760	534	865	828	702	114	47.9	87.4	19.2	531
1953	4.84	20.2	283	1,003	845	831	909	764	41.6	88.8	32.9	2.17	400
1954	.45	.94	55.0	535	291	1,091	625	262	189	1,308	659	81.9	428
1955	988	326	1,021	734	1,904	2,010	463	278	301	42.3	28.0	5.30	669
1956	56.0	122	187	645	2,116	1,924	763	705	702	324	749	251	707
1957	94.8	205	1,539	1,593	1,724	701	824	178	149	96.5	2.29	9.39	570
1958	141	121	1,167	1,006	1,133	925	1,204	1,107	273	1,499	1,175	56.2	819
1959	48.8	152	261	963	749	590	986	631	343	121	191	36.5	420
1960	92.6	669	878	1,273	1,110	814	750	539	85.6	171	292	233	574

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.57	3.11	5.15	3.67	5.12	4.54	3.68	1.56	1.52	0.48	0.05	0.09	29.54
1952	.01	1.01	3.08	5.26	1.49	2.58	2.39	2.10	.33	.14	.26	.06	18.71
1953	.01	.06	.84	3.00	2.28	2.48	2.63	2.28	.12	.27	.10	.006	14.08
1954	.001	.002	.16	1.60	.78	3.26	1.81	.78	.55	3.91	1.97	.24	15.06
1955	2.95	.94	3.05	2.19	5.14	6.00	1.34	.83	.87	.13	.08	.02	23.54
1956	.17	.35	.56	1.93	5.91	5.75	2.21	2.11	2.03	.97	2.24	.72	24.95
1957	.28	.59	4.60	4.16	4.65	2.09	2.38	.53	.43	.29	.007	.03	20.04
1958	.42	.35	3.48	3.01	3.06	2.76	3.48	3.31	.79	4.47	3.51	.16	28.80
1959	.15	.44	.75	2.87	2.02	1.76	2.85	1.88	.99	.36	.57	.10	14.74
1960	.28	1.93	2.62	3.80	3.10	2.43	2.17	1.61	.25	.51	.87	.67	20.24

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,075	37.82
1951	1205	18,200	Feb. 1, 1951	4	840	2.18	29.54	706	24.81
1952	1235	10,400	Jan. 28, 1952	2.1	531	1.38	18.71	440	15.52
1953	1275	4,380	Jan. 9, 1953	.7	400	1.04	14.08	379	13.33
1954	1335, 1435	10,600	July 19, 1954	.2	428	1.11	15.06	621	21.84
1955	1385	10,600	Oct. 16, 1954	.6	669	1.73	23.54	503	17.68
1956	1435	8,850	Jan. 30, 1956	.9	707	1.83	24.95	832	29.34
1957	1505	12,800	Feb. 10, 1957	.2	570	1.48	20.04	535	18.82
1958	1555	11,900	July 24, 1958	5.4	819	2.12	28.80	736	25.89
1959	1625	5,700	Jan. 22, 1959	1.7	420	1.09	14.74	519	18.23
1960	1705	6,510	Jan. 15, 1960	3.3	574	1.49	20.24	-	-

LITTLE KANAWHA RIVER BASIN

1525. Leading Creek near Glenville, W. Va.

Location.--Lat 38°57'45", long 80°52'00", on left bank 500 ft upstream from Big Run, 1.4 miles upstream from mouth, and $2\frac{3}{4}$ miles northwest of Glenville, Gilmore Co.

Drainage area.--144 sq mi.

Records available.--October 1937 to December 1951. Monthly discharge only for October 1937 to February 1938, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 700.23 ft above mean sea level, adjustment of 1912. Prior to Nov. 7, 1945, staff gage 200 ft downstream at same datum. Auxiliary staff or wire-weight gage 1.4 miles downstream at same datum.

Average discharge.--14 years (1937-51), 220 cfs.

Extremes.--1938-51: Maximum discharge, 12,100 cfs June 25, 1950 (gage height, 28.63 ft), backwater from Little Kanawha River; minimum observed, 0.1 cfs Sept. 18-29, 1939; minimum gage height observed, 0.28 ft Aug. 13, 14, 1944.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	44.9	328	632	481	686	511	406	79.0	223	45.0	5.33	24.7	286
1952	2.52	228	529	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.36	2.55	5.06	3.85	4.96	4.09	3.15	0.63	1.73	0.36	0.04	0.19	26.97
1952	.02	1.77	4.23	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	364	34.36
1951	1205	8,500	Feb. 1, 1951	0.7	286	1.99	26.97	265	25.02

1530. Steer Creek near Grantsville, W. Va.

Location.--Lat 38°51'45", long 81°02'05", on right bank at downstream side of highway bridge, 500 ft upstream from Rush Run, 2.2 miles upstream from mouth, and 5.5 miles southeast of Grantsville, Calhoun County.

Drainage area.--166 sq mi.

Records available.--October 1937 to September 1960. Monthly discharge only for October 1937 to February 1938, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 678.00 ft above mean sea level, adjustment of 1912. Prior to Feb. 25, 1940, wire-weight gage at same site and datum. Since June 17, 1941, auxiliary staff or wire-weight gage about 1 mile downstream at same datum.

Average discharge.--23 years (1937-60), 219 cfs.

Extremes.--1937-60: Maximum discharge, 12,400 cfs Apr. 16, 1939 [computed from graph based on gage readings], from rating curve extended above 4,000 cfs; maximum gage height, 28.15 ft Apr. 16, 1939 (backwater from Little Kanawha River); no flow at times during 1953, 1955, 1957, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	57.2	293	662	510	757	565	406	170	112	9.01	1.99	12.1	294
1952	.53	132	439	877	234	406	391	243	33.8	33.5	59.3	6.25	239
1953	1.10	7.37	78.3	384	283	311	326	240	95.0	36.3	21.2	1.148	148
1954	.0355	.044	7.97	123	57.4	348	208	53.8	132	556	187	26.2	143
1955	458	113	398	267	830	940	168	104	17.1	7.03	8.23	.224	274
1956	16.8	33.5	44.0	220	1,039	985	353	175	352	243	72.5	70.4	297
1957	134	26.9	835	593	977	304	310	80.4	20.4	7.79	.065	3.86	260
1958	43.6	57.6	373	437	417	324	523	435	152	473	489	16.7	311
1959	12.7	32.1	64.2	326	276	191	381	140	11.8	3.29	31.5	3.12	122
1960	28.8	176	230	495	481	408	262	257	16.1	19.8	156	68.4	216

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.40	1.98	4.60	3.54	4.75	3.92	2.73	1.18	0.75	0.06	0.01	0.08	24.00
1952	.004	.88	3.05	6.09	1.52	2.82	2.63	1.69	.23	.23	.41	.04	19.59
1953	.008	.05	.54	2.67	1.77	2.16	2.19	1.67	.64	.28	.15	.001	12.10
1954	.0002	.0003	.06	.86	.36	2.42	1.40	.37	.89	3.86	1.30	.18	11.70
1955	3.18	.76	2.76	1.86	5.21	6.55	1.13	.72	.11	.05	.06	.002	22.37
1956	.12	.23	.31	1.53	6.75	6.84	2.37	1.21	2.37	1.69	.50	.47	24.39
1957	.09	.18	5.78	4.12	6.13	2.11	2.08	.56	.14	.05	.0004	.03	21.27
1958	.30	.39	2.59	3.04	2.62	2.25	3.51	3.02	1.02	3.29	3.26	.11	25.40
1959	.09	.22	.45	2.26	1.73	1.33	2.56	.97	.08	.02	.22	.02	9.95
1960	.20	1.18	1.60	3.44	3.12	2.82	1.76	1.79	.11	.14	1.08	.46	17.70

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	318	25.98
1951	1205	9,700	Feb. 1, 1951	0.3	294	1.77	24.00	257	20.95
1952	1235	5,680	Jan. 28, 1952	.3	239	1.44	19.59	198	16.25
1953	1275	2,540	Jan. 8, 1953	.04	148	.892	12.10	141	11.56
1954	1335	9,400	July 21, 1954	0	143	.861	11.70	224	18.34
1955	1385	9,270	Oct. 16, 1954	0	274	1.65	22.37	200	16.35
1956	1435	7,260	Mar. 14, 1956	.2	297	1.79	24.39	363	29.78
1957	1505	11,000	Dec. 14, 1956	0	260	1.57	21.27	226	18.50
1958	1555	7,610	Aug. 9, 1958	1.0	311	1.87	25.40	280	22.88
1959	1625	2,940	Jan. 20, 1959	0	122	.735	9.95	149	12.17
1960	1705	6,200	Mar. 31, 1960	.1	216	1.30	17.70	-	-

1535. Little Kanawha River at Grantsville, W. Va.

Location.--Lat 38°55'20", long 81°05'50", on left bank at downstream side of bridge on State Highway 16 at Grantsville, Calhoun County, 1,200 ft downstream from Philip Run.

Drainage area.--913 sq mi.

Records available.--October 1928 to September 1960. Monthly discharge only for October to December 1928, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 652.83 ft above mean sea level, adjustment of 1912. Prior to Nov. 21, 1934, chain gage on bridge at same datum.

Average discharge.--32 years (1928-60), 1,358 cfs.

Extremes.--1928-60: Maximum discharge, 34,300 cfs Apr. 17, 1939 (gage height, 43.10 ft); no flow Sept. 10 to Nov. 16, 1930.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	433	2,264	3,879	3,003	4,301	3,591	2,747	1,003	1,024	427	27.4	79.4	1,883
1952	8.99	914	2,742	4,443	1,253	2,178	2,011	1,535	200	109	198	33.1	1,308
1953	8.97	293	483	2,503	2,029	2,065	2,218	1,894	344	286	77.6	2.48	990
1954	.189	.519	69.1	917	447	2,378	1,383	572	745	2,592	1,259	170	885
1955	2,301	717	2,295	1,665	4,526	4,879	1,074	554	358	132	62.5	15.0	1,535
1956	138	281	394	1,254	5,074	4,748	1,804	1,431	1,639	789	1,103	412	1,576
1957	137	290	3,544	3,111	4,094	1,643	1,930	406	173	138	6.12	63.1	1,279
1958	361	346	2,888	2,519	2,782	2,107	3,024	2,865	611	3,593	2,730	166	1,987
1959	115	298	553	2,353	1,784	1,305	2,276	1,203	533	132	286	67.8	903
1960	181	1,256	1,797	2,913	2,790	2,062	1,773	1,607	348	466	909	370	1,370

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.55	2.77	4.90	3.79	4.91	4.53	3.36	1.27	1.25	0.54	0.03	0.10	28.00
1952	.01	1.12	3.46	5.61	1.48	2.75	2.46	1.94	.24	.14	.25	.04	19.50
1953	.01	.04	.61	3.16	2.31	2.61	2.71	2.39	.42	.36	.10	.003	14.72
1954	.0002	.0006	.09	1.16	.51	3.00	1.69	.72	.91	3.27	1.59	.21	15.15
1955	2.91	.88	2.90	2.10	5.16	6.16	1.31	.70	.44	.17	.08	.02	22.83
1956	.17	.34	.50	1.58	5.99	6.00	2.20	1.81	2.00	1.00	1.39	.50	23.48
1957	.17	.35	4.47	3.93	4.67	2.07	2.36	.51	.21	.17	.008	.08	19.00
1958	.46	.42	3.65	3.18	3.17	2.66	3.70	3.62	.75	4.28	3.45	.20	29.54
1959	.14	.36	.70	2.97	2.04	1.65	2.78	1.52	.65	.17	.36	.08	15.42
1960	.23	1.54	2.27	3.68	3.30	2.60	2.17	2.05	.42	.59	1.15	.45	20.43

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2,361	35.12
1951	1205	28,400	Feb. 2, 1951	8.4	1,883	2.06	28.00	1,639	24.37
1952	1235	20,800	Jan. 28, 1952	3.6	1,308	1.43	19.50	1,044	15.57
1953	1275	11,700	Jan. 9, 1953	.6	990	1.08	14.72	952	14.15
1954	1335	19,300	July 21, 1954	.07	885	.989	13.15	1,328	19.75
1955	1385	23,100	Oct. 16, 1954	2.0	1,535	1.68	22.83	1,154	17.15
1956	1435	19,300	Mar. 15, 1956	11	1,576	1.73	23.48	1,843	27.46
1957	1505	25,100	Dec. 15, 1956	.01	1,279	1.40	19.00	1,247	18.54
1958	1555	23,600	Aug. 9, 1958	14	1,987	2.18	29.54	1,763	26.21
1959	1625	15,700	Jan. 22, 1959	4.0	903	.989	13.42	1,093	16.26
1960	1705	15,600	Jan. 15, 1960	4	1,370	1.50	20.43	-	-

1540. West Fork Little Kanawha River at Rocksedale, W. Va.

Location.--Lat 38°50'35", long 81°13'20", near center of span on downstream side of highway bridge, 50 ft downstream from Henry Fork at Rocksedale, Calhoun County, and 9 miles southwest of Grantsville.

Drainage area.--205 sq mi.

Records available.--October 1928 to September 1931, October 1937 to September 1960.

Monthly discharge only for some periods, published in WSP 1305.

Gage.--Wire-weight gage, read twice daily, and crest-stage gage. Datum of gage is 657.85 ft above mean sea level, adjustment of 1912. Prior to Sept. 30, 1931, chain gage at same site and datum.

Average discharge.--26 years (1928-31, 1937-60), 251 cfs.

Extremes.--1928-31, 1937-60: Maximum discharge, 20,200 cfs Apr. 16, 1939 (gage height, 30.3 ft, from floodmarks), from rating curve extended above 13,000 cfs; no flow at times during 1930, 1953, 1957, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	74.0	538	745	668	967	776	467	141	108	16.1	4.44	12.7	373
1952	2.87	240	613	1,060	275	589	487	387	64.1	73.6	62.3	5.15	323
1953	.61	6.89	103	566	303	378	569	204	561	15.5	14.2	.15	193
1954	.05	1.07	3.11	116	55.5	454	281	73.7	116	124	101	27.5	113
1955	360	114	401	290	889	976	238	107	13.4	19.2	7.20	.150	283
1956	18.9	27.8	42.2	177	936	1,027	430	144	223	288	66.4	66.3	285
1957	10.9	14.0	691	568	718	349	302	63.5	55.5	12.8	.483	24.3	232
1958	95.3	121	492	584	567	396	602	498	160	427	519	18.6	373
1959	9.01	31.3	69.5	419	326	218	474	123	21.8	2.76	17.9	.170	141
1960	25.8	161	260	564	589	437	282	242	21.1	24.9	192	27.4	235

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.42	2.93	4.19	5.75	4.91	4.36	2.54	0.79	0.59	0.09	0.02	0.07	24.66
1952	.02	1.31	3.45	5.96	1.44	3.31	2.65	2.17	.35	.41	.35	.03	21.45
1953	.005	.04	.58	3.18	1.54	2.13	2.01	1.15	1.96	.09	.08	.0008	12.77
1954	.0003	.0004	.02	.65	.28	2.55	1.53	.41	.63	.70	.57	.15	7.49
1955	2.13	.62	2.26	1.63	4.51	5.49	1.30	.60	.07	.11	.04	.0008	18.76
1956	.11	.15	.24	1.00	4.93	5.78	2.34	.81	1.21	1.62	.37	.36	18.92
1957	.06	.08	3.88	3.20	3.65	1.96	1.64	.36	.30	.07	.003	.13	15.33
1958	.54	.66	2.77	3.29	2.88	2.23	3.28	2.80	.87	2.40	2.92	.10	24.74
1959	.05	.17	.39	2.36	1.66	1.23	2.58	.69	.12	.02	.10	.0009	9.37
1960	.15	.88	1.46	3.17	3.10	2.46	1.53	1.36	.11	.14	1.08	.15	15.59

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	476	31.50
1951	1205	17,600	Feb. 1, 1951	1.1	373	1.82	24.66	331	21.90
1952	1235	7,800	Jan. 28, 1952	.3	323	1.58	21.45	261	17.30
1953	1275	14,600	June 27, 1953	.1	193	.941	12.77	183	12.16
1954	1335	3,280	Mar. 1, 1954	.0	113	.551	7.49	189	12.48
1955	1385	11,200	Oct. 15, 1954	.01	283	1.38	18.76	215	14.25
1956	1435	9,680	Feb. 18, 1956	.1	285	1.39	18.92	338	22.44
1957	1505	13,000	Dec. 14, 1956	0	232	1.13	15.33	251	15.28
1958	1555	9,440	Aug. 9, 1958	2.8	373	1.82	24.74	323	21.38
1959	1625	3,850	Jan. 22, 1959	0	141	.688	9.37	170	11.25
1960	1705	5,320	Jan. 15, 1960	0	235	1.15	15.59	-	-

1545. Reedy Creek near Reedy, W. Va.

Location.--Lat 38°57'40" long 81°23'25", on left bank a quarter of a mile downstream from Roundbottom Run, 1 mile north of Lucile, and 4.5 miles northeast of Reedy, Roane County.

Drainage area.--79.4 sq mi.

Records available.--October 1951 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 650 ft (from topographic map).

Average discharge.--9 years (1951-60), 87.7 cfs.

Extremes.--1951-60: Maximum discharge, 5,730 cfs Feb. 10, 1957 (gage height, 14.7 ft), from rating curve extended above 3,700 cfs; no flow Sept. 9, 1957, Sept. 13 to Oct. 11, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	2.50	131	272	307	134	208	135	117	50.4	31.3	16.3	1.34	118
1953	.23	.41	24.5	205	102	190	108	115	9.02	26.6	43.4	1.68	69.2
1954	.385	.137	6.38	62.8	14.0	179	109	32.6	11.2	24.1	25.9	9.94	39.9
1955	75.7	31.2	139	96.5	359	322	65.6	36.3	6.33	33.5	10.9	.265	96.8
1956	9.90	9.17	19.1	69.9	385	406	136	68.1	58.4	64.4	30.1	9.80	103
1957	2.15	4.57	244	186	280	101	132	33.1	30.5	15.9	1.52	20.2	86.4
1958	42.9	115	237	197	178	120	184	245	70.1	283	82.0	9.73	147
1959	3.29	30.4	33.9	185	157	92.5	175	23.3	7.26	2.44	1.94	.26	58.6
1960	4.00	49.2	105	176	228	108	42.1	75.0	9.57	4.77	44.2	7.23	70.8

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	0.04	1.85	3.95	4.46	1.82	3.02	1.90	1.70	0.71	0.45	0.24	0.02	20.16
1953	.003	.006	.36	2.98	1.34	2.75	1.52	1.67	.13	.42	.63	.03	11.84
1954	.006	.002	.09	.91	.18	2.60	1.53	.47	.16	.35	.38	.14	6.82
1955	1.10	.44	2.02	1.40	4.71	4.68	.92	.53	.09	.49	.16	.004	16.54
1956	.14	.13	.28	1.01	5.22	5.90	1.90	.99	.54	.93	.44	.14	17.62
1957	.03	.06	3.54	2.71	3.67	1.47	1.85	.48	.43	.23	.02	.28	14.77
1958	.62	1.62	3.45	2.87	2.34	1.74	2.59	3.56	.99	4.11	1.19	.14	25.22
1959	.05	.43	.49	2.69	2.05	1.34	2.46	.54	.10	.04	.03	.004	10.02
1960	.06	.69	1.53	2.56	3.10	1.56	.59	1.09	.13	.07	.64	.10	12.12

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1235	3,350	Dec. 15, 1951	0.3	118	1.49	20.16	85.7	14.69
1953	1275	2,420	Mar. 3, 1953	.1	69.2	.875	11.84	67.6	11.57
1954	1335	1,660	Mar. 13, 1954	.02	39.9	.503	6.82	60.2	10.26
1955	1385	3,840	Feb. 27, 1955	.02	96.8	1.22	16.54	79.2	13.53
1956	1435	4,260	Mar. 14, 1956	.1	103	1.30	17.62	121	20.70
1957	1505	5,730	Feb. 10, 1957	.1	86.4	1.09	14.77	98.4	16.83
1958	1555	3,490	Jan. 25, 1958	.8	147	1.85	25.22	120	20.50
1959	1625	2,480	Jan. 20, 1959	0	58.6	.738	10.02	66.3	11.33
1960	1705	2,240	Jan. 15, 1960	0	70.8	.892	12.12	-	-

1550. Little Kanawha River at Palestine, W. Va.

Location.--Lat 39°03'35", long 81°23'25", on left bank at end of Washington Street in Elizabeth, 1.0 mile upstream from Tucker Creek, 2.3 miles northeast of Palestine, Wirt County, and 2.4 miles upstream from lock 3.

Drainage area.--1,515 sq mi.

Records available.--April 1915 to September 1922 (gage heights only), July to September 1939 (fragmentary), October 1939 to September 1960. Monthly discharge only for October 1939 to September 1941, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 585.51 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944. Prior to Feb. 17, 1950, water-stage recorders or staff gages at locks 3 and 4 at various datums. Auxiliary water-stage recorder 3 miles upstream at lock 4.

Average discharge.--21 years (1939-60), 2,093 cfs.

Extremes.--1939-60: Maximum discharge, 46,300 cfs Apr. 14, 1948 (gage height, 30.4 ft), datum then in use

1944-46, 1948-60: Minimum discharge, 0.6 cfs July 14, 1959 (filling pool above lock 3).

Flood of Apr. 17, 1939, reached a stage of 32.25 ft, from floodmarks at lock 4 (discharge, about 53,000 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	889	3,592	6,247	4,906	7,105	6,065	4,680	1,630	1,524	503	52.4	188	3,087
1952	24.6	1,756	4,853	7,468	2,434	4,041	3,198	2,707	628	370	494	66.7	2,345
1953	23.9	90.9	875	3,935	2,737	3,334	2,998	2,461	768	309	199	14.4	1,474
1954	6.14	2.41	130	1,230	663	3,445	2,123	854	1,021	2,796	1,441	404	1,184
1955	3,010	1,154	3,323	2,539	6,823	8,495	1,936	967	411	305	152	22.6	2,409
1956	199	468	572	1,513	8,437	8,131	3,131	1,815	2,052	1,267	1,160	443	2,410
1957	160	334	5,236	4,255	6,531	2,539	2,857	611	357	186	25.9	172	1,912
1958	621	787	4,822	4,202	4,248	3,243	4,612	4,919	1,016	5,069	3,756	281	3,138
1959	176	441	850	4,101	2,916	1,913	3,396	1,514	661	118	331	80.6	1,365
1960	184	1,445	2,467	4,241	4,455	2,872	2,672	2,346	500	500	1,515	410	1,944

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.66	2.65	4.75	3.73	4.88	4.62	3.45	1.24	1.12	0.38	0.04	0.14	27.66
1952	.02	1.29	3.69	5.68	1.73	3.08	2.36	2.06	.46	.28	.38	.05	21.08
1953	.02	.07	.66	2.99	1.88	2.54	2.21	1.87	.56	.24	.15	.01	13.20
1954	.005	.002	.10	.94	.46	2.82	1.56	.65	.75	2.13	1.10	.30	10.62
1955	2.29	.85	2.53	1.93	4.69	6.46	1.43	.74	.30	.23	.12	.02	21.59
1956	.15	.34	.44	1.15	6.01	6.19	2.31	1.38	1.51	.96	.88	.33	21.65
1957	.12	.25	3.98	3.24	4.49	1.93	2.10	.46	.26	.14	.02	.13	17.12
1958	.47	.58	3.67	3.20	2.92	2.47	3.40	3.74	.75	3.86	2.86	.21	28.13
1959	.13	.32	.65	3.12	2.00	1.46	2.50	1.15	.49	.09	.25	.06	12.22
1960	.14	1.06	1.88	3.23	3.17	2.19	1.97	1.78	.37	.38	1.00	.30	17.47

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	3,596	32.21
1951	1205	42,500	Feb. 2, 1951	23	3,087	2.04	27.66	2,746	24.60
1952	1235	31,200	Jan. 28, 1952	16	2,346	1.55	21.08	1,872	16.83
1953	1253	17,700	Jan. 9, 1953	9.0	1,474	.973	13.20	1,402	12.56
1954	1335	22,700	July 22, 1954	1.9	1,184	.782	10.62	1,805	16.18
1955	1385	29,000	Oct. 17, 1954	5.3	2,409	1.59	21.59	1,880	16.85
1956	1435	26,000	Feb. 19, Mar. 15	8.6	2,410	1.59	21.65	2,790	25.07
1957	1505	36,400	Dec. 15, 1956	2.3	1,912	1.26	17.12	1,953	17.49
1958	1556	26,000	Aug. 10, 1958	52	3,158	2.07	28.13	2,735	24.51
1959	1625	22,600	Jan. 22, 1959	.9	1,365	.901	12.22	1,585	14.20
1960	1705	20,200	Jan. 16, 1960	4.7	1,944	1.28	17.47	-	-

1552. South Fork Hughes River at Macfarlan, W. Va.

Location--Lat 39°04'40", long 81°11'25", near center of span on upstream side of highway bridge, 0.4 mile east of Macfarlan, Ritchie County, 0.5 mile upstream from Dutchman Run, and 1.5 miles upstream from Macfarlan Creek.

Drainage area--210 sq mi.

Records available--May 1915 to September 1922 (gage heights only October 1916 to September 1922), October 1937 to December 1951. Monthly discharge only for October 1937 to January 1938, published in WSP 1305.

Gage--Wire-weight gage read twice daily. Datum of gage is 635.28 ft above mean sea level, adjustment of 1912. Prior to Mar. 12, 1940, staff gage about 50 ft upstream at same datum.

Average discharge--15 years (1915-16, 1937-51), 313 cfs.

Extremes--1915-16, 1937-51: Maximum discharge, 12,100 cfs June 25, 1950 (gage height, 29.3 ft, from graph based on gage readings), from rating curve extended above 6,500 cfs on basis of slope-area measurements at gage heights 21.7 and 27.91 ft; minimum observed, 0.02 cfs Oct. 8-13, 1943. Maximum stage known prior to 1915 about 29 ft from information furnished by local residents (discharge, about 13,000 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	30.3	351	820	749	856	845	611	176	428	124	4.95	1.28	412
1952	1.02	201	659	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.17	1.86	4.50	4.11	4.15	4.64	3.25	0.97	2.27	0.68	0.03	0.007	26.64
1952	.006	1.07	3.62	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	444	29.35
1951	1205	9,100	Feb. 1, 1951	0.5	412	1.96	26.64	384	24.80

1555. Hughes River at Cisko, W. Va.

Location.--Lat 39°07'10", long 81°16'40", on right bank 100 ft downstream from confluence of North and South Forks, 1 mile upstream from Cisko, Ritchie County, and 5 miles south of Petroleum.

Drainage area.--452 sq mi.

Records available.--May 1915 to September 1922 (gage heights only), October 1928 to September 1931, October 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 607.92 ft above mean sea level, adjustment of 1912. Prior to Sept. 30, 1931, staff gage at site 0.9 mile downstream and Mar. 5, 1939, to Sept. 30, 1945, staff gage at site 1 mile downstream and Mar. 5, 1939, to Sept. 30, 1945, staff gage at site 1 mile downstream, both at datum 2.56 ft lower. Oct. 1, 1945, to June 30, 1946, wire-weight gage at bridge across mouth of North Fork at present datum.

Average discharge.--25 years (1928-31, 1938-60), 581 cfs.

Extremes.--1915-22, 1928-31, 1938-60: Maximum discharge, 31,700 cfs June 26, 1950 (gage height, 32.69 ft), from rating curve extended above 16,000 cfs on basis of slope-area measurements at gage heights 24.8, 28.1, and 30.4 ft; no flow July 26, Aug. 2-6, Sept. 4 to Dec. 5, 1930.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	57.5	574	1,791	1,688	1,708	1,919	1,307	432	783	344	23.1	4.84	882
1952	1.88	383	1,383	1,969	818	1,263	878	745	60.4	56.8	56.4	6.38	637
1953	2.35	4.50	156	1,158	765	1,027	713	941	249	207	8.82	5.70	436
1954	1.08	.947	21.5	254	125	891	487	346	290	280	369	55.4	260
1955	829	252	1,049	616	2,097	1,817	932	206	42.4	28.4	23.0	3.56	650
1956	29.2	113	119	498	1,890	2,140	888	677	463	481	331	70.0	638
1957	17.7	36.6	1,451	1,218	1,779	515	919	115	34.3	33.6	3.44	38.3	506
1958	123	422	1,580	1,136	924	596	1,149	1,447	186	2,249	693	116	889
1959	43.7	172	275	1,242	1,001	521	929	384	47.0	86.8	47.3	18.9	394
1960	17.8	238	627	1,024	1,252	762	509	861	290	239	304	34.3	512

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.15	1.42	4.57	4.31	3.93	4.89	3.23	1.10	1.93	0.88	0.06	0.01	26.48
1952	1.005	.95	3.52	5.02	1.95	3.22	2.17	1.90	.15	.14	.14	.02	19.19
1953	.006	.01	.40	2.95	1.76	2.62	1.76	2.40	.61	.53	.02	.01	13.08
1954	.003	.002	.05	.65	.29	2.27	1.20	.88	.72	.72	.94	.09	7.82
1955	2.11	.62	2.68	1.57	4.83	4.64	2.30	.53	.10	.07	.06	.009	19.52
1956	.07	.28	.30	1.27	4.51	5.46	2.19	1.73	1.14	1.23	.84	.17	19.19
1957	.05	.09	3.70	3.11	4.10	1.31	2.27	.29	.08	.09	.009	.09	15.19
1958	.31	1.04	4.03	2.90	2.13	1.52	2.84	3.69	.46	5.74	1.77	.29	26.72
1959	.11	.42	.70	3.17	2.31	1.35	2.29	.98	.12	.22	.12	.05	11.82
1960	.05	.59	1.60	2.61	2.99	1.94	1.26	2.20	.72	.61	.78	.08	15.43

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	968	29.07
1951	1205	16,200	Feb. 2, 1951	1.5	882	1.95	26.48	827	24.82
1952	1235	10,700	Jan. 27, 1952	1.5	637	1.41	19.19	502	15.13
1953	1275	11,200	May 7, 1953	1.0	436	.965	15.08	424	12.72
1954	1335	6,180	June 11, 1954	4	260	.575	7.82	438	13.17
1955	1385	15,400	Oct. 16, 1954	1.4	650	1.44	19.52	492	14.76
1956	1435	14,100	Mar. 8, 1956	2.9	638	1.41	19.19	743	22.38
1957	1505	19,200	Feb. 10, 1957	1	506	1.12	15.19	557	16.73
1958	1555	17,000	July 24, 1958	7.0	889	1.97	26.72	751	22.57
1959	1625	9,560	Jan. 21, 1959	1.1	394	.872	11.82	427	12.83
1960	1705	11,500	Jan. 15, 1960	1	512	1.13	15.43	-	-

1560. Hunters Run at Lancaster, Ohio

Location.--Lat 39°42'30", long 82°37'20", in NE $\frac{1}{4}$ sec. 11, T. 14 N., R. 19 W., on right bank at downstream side of bridge on U.S. Highway 22, 1 mile southwest of Lancaster, Fairfield County, and $\frac{1}{4}$ miles upstream from mouth.

Drainage area.--9.63 sq mi.

Records available.--January 1956 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 823.6 ft above mean sea level, datum of 1929.

Extremes.--1956-60: Maximum discharge, 1,250 cfs Jan. 21, 1959 (gage height, 5.78 ft), from rating curve extended above 730 cfs on basis of contracted-opening measurement at gage height 15.4 ft; minimum, 0.3 cfs Aug. 14, 1959; minimum gage height, 0.90 ft Jan. 17, 1956.

Maximum stage known, 15.4 ft July 21 or 22, 1948 (discharge, 11,200 cfs, on basis of contracted-opening measurement of peak flow at Pennsylvania Railroad bridge, three-quarters of a mile upstream).

Remarks.--Flood flow affected by temporary retention in four retarding basins above station (combined capacity, 2,820 acre-ft). Controlled drainage area is 8.49 sq mi.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	5.93	24.3	25.3	17.6	13.5	4.60	2.96	2.03	1.71	-
1957	1.48	1.43	3.32	5.19	14.7	7.69	29.1	7.17	10.3	3.64	1.71	1.72	7.19
1958	1.76	3.28	22.9	11.8	7.35	7.65	13.8	15.6	17.1	29.2	9.19	8.99	12.4
1959	4.86	4.14	5.30	29.4	24.1	16.4	9.41	6.23	3.27	1.83	1.09	1.29	8.86
1960	3.14	4.01	10.1	12.4	15.7	13.2	8.38	9.28	5.34	3.94	2.01	1.25	7.38

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	0.71	2.72	3.03	2.04	1.61	0.53	0.35	0.24	0.20	-
1957	0.18	0.17	0.40	.62	1.59	.92	3.37	.86	1.19	.44	.21	.20	10.15
1958	.21	.38	2.74	1.42	.79	.92	1.60	1.87	1.99	3.49	1.10	1.04	17.55
1959	.58	.48	.63	3.52	2.60	1.96	1.09	.75	.38	.22	.13	.15	12.49
1960	.38	.46	1.21	1.49	1.76	1.58	.97	1.11	.62	.47	.24	.14	10.43

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1956	1435	*311	May 2, 1956	-	-	-	-	8.62	12.18
1957	1505	929	June 24, 1957	1.2	7.19	0.747	10.15	9.03	12.73
1958	1555	1,010	June 13, 1958	1.1	12.4	1.29	17.55	11.3	15.91
1959	1625	1,250	Jan. 21, 1959	.5	8.86	.920	12.49	9.11	12.85
1960	1705	505	Feb. 10, 1960	1.0	7.38	.766	10.43	-	-

* Revised.

1564. Hocking River at Lancaster, Ohio

Location.--Lat 39°42'25", long 82°36'05", in NE $\frac{1}{4}$ sec.12, T.14 N., R.19 W., on right bank 25 ft upstream from Columbus Street Bridge in Lancaster, Fairfield County, and half a mile downstream from Hunters Run.

Drainage area.--49.8 sq mi.

Records available.--June 1956 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 797.9 ft above mean sea level, datum of 1929.

Extremes.--1956-60: Maximum discharge, 1,980 cfs Jan. 21, 1959 (gage height, 12.76 ft); minimum, 2.3 cfs Aug. 24, 26, 1959; minimum gage height, 1.63 ft Jan. 4, 5, 1959.

Remarks.--Some diurnal fluctuation caused by industrial plants above station. Water supply for city of Lancaster is pumped from wells adjacent to the Hocking River above station. A portion of the pumpage is believed to be diverted from the Hocking River basin as recharge for aquifer supplying well field. Flood flow affected by temporary retention in four retarding basins above station (combined capacity, 2,820 acre-ft). Controlled drainage area is 8.49 sq mi.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	29.7	19.1	12.5	10.7	-
1957	11.2	11.4	25.8	31.4	61.0	31.0	112	36.6	58.0	16.3	7.77	6.66	33.7
1958	6.58	14.0	74.9	43.3	26.0	30.3	54.7	57.1	92.2	165	42.9	36.0	53.9
1959	20.1	19.1	22.1	112	87.1	63.0	39.3	24.9	19.2	10.9	7.59	6.56	35.7
1960	11.1	16.3	42.9	59.3	68.8	56.9	32.9	27.1	16.7	18.0	12.0	7.43	30.7

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	-	-	-	-	-	-	-	-	0.66	0.44	0.29	0.24	-
1957	0.26	0.26	0.60	0.73	1.27	0.72	2.51	0.85	1.29	.38	.18	.15	9.20
1958	.15	.31	1.73	1.00	.54	.70	1.23	1.33	2.06	3.82	.99	.81	14.67
1959	.47	.43	.51	2.59	1.82	1.46	.88	.58	.43	.25	.18	.15	9.75
1960	.26	.36	.99	1.37	1.49	1.31	.74	.63	.37	.42	.28	.17	8.39

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1956	1435	-	-	-	-	-	-	-	-
1957	1505	1,740	Apr. 4, 1957	4.2	33.7	0.677	9.20	37.7	10.27
1958	1855	1,510	June 13, 1958	4.7	53.9	1.08	14.67	51.0	13.89
1959	1625	1,980	Jan. 21, 1959	3.7	35.7	.717	8.75	56.5	9.95
1960	1705	925	Feb. 10, 1960	4.0	30.7	.616	8.39	-	-

1570. Clear Creek near Rockbridge, Ohio

Location.--Lat 39°35'20", long 82°34'40", in NE $\frac{1}{4}$ sec.20, T.13 N., R.18 W., on left bank at upstream side of highway bridge, 2 miles upstream from mouth and 3 miles west of Rockbridge, Hocking County.

Drainage area.--87.7 sq mi.

Records available.--October 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 760.13 ft above mean sea level, adjustment of 1912. Prior to May 2, 1940, chain gage at same site and datum.

Average discharge.--21 years (1939-60), 84.0 cfs.

Extremes.--1939-60: Maximum discharge, 16,000 cfs July 22, 1948 (gage height, 17.68 ft, from high-water mark in well), from rating curve extended above 3,500 cfs on basis of slope-area measurement of peak flow; minimum, 3.0 cfs Dec. 29, 1947, result of freezeup; minimum gage height, 0.75 ft Aug. 27, 1942.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	26.0	69.9	249	294	306	224	147	66.9	56.3	57.0	18.5	24.4	127
1952	22.9	60.9	198	280	185	180	164	55.6	30.8	52.2	19.5	14.5	105
1953	14.1	15.4	25.2	105	81.2	62.0	63.9	68.7	32.5	36.9	13.4	11.3	44.0
1954	12.5	14.9	17.4	28.6	18.8	48.0	58.4	52.1	29.4	16.2	34.2	13.9	28.8
1955	22.1	19.1	49.5	50.5	176	212	71.6	35.8	25.9	28.8	15.1	11.2	59.1
1956	15.3	34.2	22.9	40.0	208	213	166	119	42.0	26.1	19.5	24.9	77.0
1957	16.3	17.2	43.7	62.6	129	66.7	210	47.6	53.3	26.5	13.7	13.7	57.6
1958	15.0	31.4	167	89.4	56.7	68.6	125	142	118	225	60.8	54.5	96.6
1959	32.0	32.7	56.1	248	189	130	90.2	71.5	32.4	18.6	14.6	11.6	76.7
1960	22.5	35.4	92.7	121	136	107	70.1	100	39.1	29.3	18.9	14.3	65.4

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.34	0.89	3.27	3.86	3.63	2.94	1.87	0.88	0.72	0.75	0.24	0.31	19.70
1952	.30	.77	2.61	3.68	2.28	2.36	2.09	.73	.39	.69	.26	.18	16.34
1953	.19	.20	.33	1.38	.96	.82	.81	.90	.41	.49	.18	.14	6.81
1954	.16	.19	.23	.38	.22	.63	.74	.68	.37	.21	.45	.18	4.44
1955	.29	.24	.65	.66	2.09	2.79	.91	.47	.33	.38	.20	.14	9.15
1956	.20	.44	.30	.53	2.56	2.80	2.11	1.57	.53	.34	.26	.32	11.96
1957	.21	.22	.57	.82	1.53	.88	2.67	.63	.68	.35	.18	.17	8.91
1958	.20	.40	2.19	1.18	.67	.90	1.60	1.87	1.51	2.96	.80	.69	14.97
1959	.42	.42	.74	3.26	2.25	1.71	1.15	.94	.41	.24	.19	.15	11.86
1960	.30	.45	1.22	1.59	1.67	1.41	.89	1.31	.50	.39	.25	.18	10.16

Yearly discharge, in cubic feet per second

Year	WSP	water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	113	17.41
1951	1205	2,600	Jan. 14, 1951	12	127	1.45	19.70	122	18.88
1952	1235	2,410	Jan. 27, 1952	8.4	105	1.20	16.34	86.2	13.38
1953	1275	1,350	July 1, 1953	9.0	44.0	1.502	6.81	43.1	6.67
1954	1335	1,360	Aug. 9, 1954	10	28.8	.328	4.44	32.7	5.04
1955	1385	2,650	Mar. 5, 1955	7.7	59.1	.674	9.15	57.5	8.91
1956	1435	1,760	Mar. 8, 1956	12	77.0	.878	11.96	77.5	12.02
1957	1505	2,700	Apr. 4, 1957	9.7	57.6	.657	8.91	69.1	10.70
1958	1555	2,450	June 13, 1958	11	96.6	1.10	14.97	88.8	13.76
1959	1625	3,200	Jan. 22, 1959	9.4	76.7	.875	11.86	79.2	12.27
1960	1705	1,800	Feb. 10, 1960	12	65.4	.746	10.16	-	-

1575. Hocking River at Enterprise, Ohio

Location.--Lat 39°33'54", long 82°28'30", in NW $\frac{1}{4}$ sec.5, T.14 N., R.17 W., on right bank at upstream side of highway bridge at Enterprise, Hocking County, 4 miles downstream from Buck Run.

Drainage area.--460 sq mi.

Records available.--October 1930 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 723.6 ft above mean sea level, adjustment of 1912. Prior to Oct. 24, 1933, chain gage at same site and datum.

Average discharge.--30 years (1930-60), 435 cfs.

Extremes.--1930-60: Maximum discharge, 25,200 cfs Apr. 20, 1940 (gage height, 19.94 ft), from rating curve extended above 17,000 cfs on basis of contracted-opening and slope-area measurements of peak flow; minimum, 12 cfs Aug. 19, 1932; minimum gage height, 0.08 ft Aug. 31, Sept. 14, 1953.

Maximum stage known, 22.0 ft in March 1907, from floodmark (discharge, 36,000 cfs), from reports of Corps of Engineers.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	98.6	294	1,245	1,631	1,635	1,227	833	326	245	227	59.7	81.8	654
1952	59.8	207	874	1,581	997	981	828	232	151	224	64.5	55.8	521
1953	45.6	51.9	86.3	463	396	311	379	361	120	120	45.2	30.4	200
1954	35.4	41.1	50.5	101	58.0	243	238	243	116	61.5	89.1	36.8	110
1955	76.6	54.9	210	223	1,009	1,276	546	191	102	106	65.5	36.5	321
1956	54.3	140	87.2	142	1,294	1,339	1,054	743	333	183	75.5	92.9	458
1957	57.1	63.3	236	352	708	370	1,180	327	287	118	52.3	50.1	313
1958	53.5	119	680	395	270	377	713	853	823	1,437	634	477	572
1959	184	184	316	1,312	1,117	730	456	307	113	75.5	54.9	45.1	404
1960	112	168	467	659	704	567	372	403	163	120	83.9	49.9	322

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.25	0.71	3.12	4.09	3.70	3.08	2.02	0.82	0.59	0.57	0.15	0.20	19.30
1952	.15	.50	2.19	3.97	2.34	2.46	2.01	.58	.37	.56	.16	.14	15.43
1953	.11	.13	.22	1.16	.90	.78	.92	.90	.29	.30	.11	.07	5.89
1954	.08	.10	.13	.25	.13	.61	.58	.61	.28	.15	.22	.09	3.23
1955	.19	.13	.53	.56	2.28	3.19	1.33	.48	.25	.27	.16	.09	9.46
1956	.14	.34	.22	.36	3.03	3.36	2.56	1.87	.81	.46	.19	.23	13.57
1957	.14	.15	.59	.88	1.60	.93	2.87	.82	.70	.30	.13	.12	9.23
1958	.13	.29	1.71	.99	.61	.95	1.73	2.13	2.00	3.60	1.59	1.16	16.89
1959	.46	.45	.79	3.29	2.53	1.83	1.11	.77	.27	.19	.14	.11	11.94
1960	.28	.41	1.18	1.65	1.65	1.42	.90	1.01	.40	.30	.21	.12	9.53

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	635	18.73
1951	1205	7,480	Jan. 15, 1951	45	654	1.42	19.30	612	18.06
1952	1235	7,720	Jan. 27, 1952	40	521	1.13	15.43	440	13.05
1953	1275	3,110	Jan. 28, 1953	28	200	.435	5.89	195	5.74
1954	1335	1,030	May 4, 1954	27	110	.239	3.23	128	3.77
1955	1385	6,170	Mar. 5, 1955	27	321	.698	9.46	315	9.31
1956	1435	4,350	Mar. 8, 1956	35	458	.996	13.57	464	13.75
1957	1505	5,700	Apr. 5, 1957	32	313	.680	9.23	355	10.48
1958	1555	5,190	June 15, 1958	37	572	1.24	16.89	558	16.46
1959	1625	9,950	Jan. 22, 1959	37	404	.878	11.94	410	12.11
1960	1705	3,630	Feb. 11, 1960	42	322	.700	9.53	-	-

1585. Tom Jenkins Reservoir at Burr Oak, Ohio

Location.--Lat 39°32'35", long 82°03'30", near center of sec.6, T.11 N., R.14 W., at dam on East Branch Sunday Creek, 0.2 mile upstream from mouth, 0.4 mile southeast of Burr Oak, Athens County, and 3 miles northeast of Glouster.

Drainage area.--32.8 sq mi.

Records available.--February 1952 to September 1960. Prior to October 1952, published as Burr Oak Reservoir at Burr Oak.

Gage.--Water-stage recorder. Datum of gage is at mean sea level.

Extremes.--1952-60: Maximum contents, 12,630 acre-ft Jan. 25, 1959 (elevation, 725.59 ft); minimum, 3,490 acre-ft Nov. 20, 1953 (elevation, 709.89 ft).

Remarks.--Reservoir is formed by earth dam with emergency spillway; storage began Feb. 2, 1952. Capacity at spillway level (elevation, 740 ft), 26,900 acre-ft, of which 9,300 acre-ft is in conservation pool. Dead storage, 35 acre-ft. Figures given herein represent total contents. Reservoir is used for flood control, although conservation pool is operated for increased low flow for water supply and for recreation and conservation of fish and wildlife. Outflow is controlled by operation of gates in conduit through dam.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1952	-	-	-	0	3,670	9,200	9,710	9,360	10,920	9,310	8,980	8,770
1953	8,550	8,490	6,290	6,240	6,290	7,990	9,530	9,200	8,940	8,870	8,610	8,360
1954	3,530	3,530	3,530	3,530	3,610	5,490	7,400	9,330	9,330	9,460	9,530	9,260
1955	9,530	9,740	9,260	6,290	7,400	9,530	9,460	9,260	9,060	9,130	9,060	8,940
1956	8,940	9,130	9,060	9,460	9,260	9,400	9,330	9,530	9,400	9,200	9,060	9,060
1957	9,060	9,000	9,530	9,670	9,460	9,530	9,260	9,260	9,260	9,060	8,800	8,800
1958	3,530	3,530	3,530	3,530	3,690	5,490	9,600	9,130	9,330	9,330	9,330	9,530
1959	9,100	9,500	9,400	9,370	9,570	9,470	9,570	9,600	9,190	9,060	8,930	8,820
1960	8,090	9,180	9,300	8,000	9,530	9,440	9,630	9,690	9,360	9,400	9,450	9,330

1590. Sunday Creek at Glouster, Ohio

Location.--Lat 39°30'00", long 82°05'05", on left bank 150 ft downstream from West Branch Sunday Creek and 200 ft upstream from bridge on State Highway 78 at Glouster, Athens County.

Drainage area.--104 sq mi.

Records available.--October 1951 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 665.23 ft above mean sea level, adjustment of 1912. Prior to Dec. 4, 1951, wire-weight gage at site 200 ft downstream at same datum.

Average discharge.--9 years (1951-60), 93.0 cfs.

Extremes.--1951-60: Maximum discharge, 2,180 cfs Jan. 21, 1959 (gage height, 14.65 ft); minimum, 0.4 cfs Oct. 26, 27, 1953; minimum gage height observed, 1.56 ft Oct. 6, 1951. Flood of Apr. 12, 1948, reached a stage of 16.5 ft, from information by the Corps of Engineers (discharge, 5,300 cfs). Maximum stage known, 22.0 ft in March 1907; flood in March 1913 reached a stage of 18.9 ft, flood in May 1938 a stage of 17.1 ft, and flood in April 1940 a stage of 18.3 ft, from information by the Corps of Engineers.

Remarks.--Flow regulated by Tom Jenkins Reservoir. Most of small diversion below Tom Jenkins Reservoir returned to stream above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	5.03	36.8	229	423	159	214	138	46.5	76.0	64.0	6.02	2.77	117
1953	4.66	2.29	49.9	204	116	130	134	99.3	6.15	3.32	1.07	1.20	62.4
1954	77.2	.74	1.56	11.1	4.31	42.7	53.8	77.9	46.3	12.6	16.0	5.64	29.4
1955	11.0	13.6	140	121	332	363	164	51.4	13.3	28.7	15.9	4.06	105
1956	6.66	17.2	13.8	57.4	485	388	240	192	59.2	22.6	6.87	7.61	123
1957	5.66	6.02	83.2	144	200	84.5	302	64.6	19.6	6.08	3.84	4.76	75.9
1958	97.2	50.6	228	106	68.4	101	177	286	65.4	238	133	65.3	136
1959	24.9	28.6	111	342	285	185	152	66.7	14.8	9.38	7.67	4.33	103
1960	42.7	29.6	160	218	141	161	100	113	32.3	11.1	6.89	5.28	85.4

Yearly discharge, in cubic feet per second, of Sunday Creek at Gloucester, Ohio

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1235	2,110	Jan. 27, 1952	0.8	117	-	-	99.0	-
1953	1275	1,470	Jan. 28, 1953	.6	62.4	-	-	64.4	-
1954	1335	1,030	May 3, 1954	.5	29.4	-	-	36.6	-
1955	1385	2,060	Mar. 5, 1955	2.3	105	-	-	94.4	-
1956	1435	1,400	Apr. 3, 1956	3.0	123	-	-	128	-
1957	1505	1,330	Apr. 18, 1957	2.7	75.9	-	-	99.6	-
1958	1555	1,880	Apr. 29, 1958	5.9	136	-	-	118	-
1959	1625	2,180	Jan. 21, 1959	3.5	103	-	-	109	-
1960	1705	1,190	Jan. 15, 1960	2.5	85.4	-	-	-	-

1595. Hocking River at Athens, Ohio

Location.--Lat 39°19'45", long 82°05'17", in T.9 N., R.14 W., on left bank at upstream side of Mill Street Bridge, three-quarters of a mile east of business section of Athens, Athens County, and 3½ miles downstream from Margaret Creek.

Drainage area.--944 sq mi.

Records available.--May 1915 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 615.59 ft above mean sea level, adjustment of 1912. Prior to Aug. 17, 1931, staff or chain gage at same site and datum.

Average discharge.--45 years (1915-60), 979 cfs.

Extremes.--1915-60: Maximum discharge, 30,400 cfs Mar. 7, 1945 (gage height, 23.0 ft); minimum, 9 cfs Oct. 11, 1930.

Maximum stage known, 26.7 ft in March 1907, from information by local resident (discharge, 50,000 cfs, computed by Corps of Engineers).

Remarks.--Some regulation by Tom Jenkins Reservoir beginning 1952. Diurnal fluctuation at low flow caused by mill above station. Records of chemical analyses and water temperatures for the period October 1954 to September 1960; suspended-sediment loads for the period October 1956 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	187	598	2,691	3,786	5,928	2,857	1,854	715	381	447	97.1	119	1,459
1952	99.1	320	1,610	3,392	1,974	2,187	1,478	449	283	443	98.6	73.9	1,034
1953	65.7	68.2	165	1,243	910	985	1,025	860	177	178	65.7	54.4	481
1954	108	46.4	65.0	147	91.6	491	645	639	210	103	180	57.6	233
1955	119	119	621	619	2,326	3,023	1,486	436	170	257	176	57.0	775
1956	98.6	201	148	298	3,397	3,045	2,143	1,584	643	315	143	180	1,006
1957	102	104	570	1,046	1,728	857	2,479	687	420	173	70.0	68.1	690
1958	147	253	1,649	957	595	955	1,714	2,410	1,116	2,957	1,040	768	1,221
1959	314	319	705	2,870	2,363	1,553	1,135	770	212	116	79.2	66.7	868
1960	224	320	1,073	1,594	1,503	1,256	902	855	359	192	118	74.9	705

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.23	0.71	3.29	4.62	4.33	3.49	2.19	0.87	0.45	0.55	0.12	0.14	20.99
1952	.12	.38	1.97	4.14	2.25	2.68	1.75	.55	.33	.54	.12	.09	14.92

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,387	19.95
1951	1205	22,400	Jan. 16, 1951	64	1,459	1.55	20.99	1,337	19.23
1952	1235	13,200	Jan. 28, 1952	50	1,034	1.10	14.92	888	-
1953	1275	6,820	Jan. 29, 1953	41	481	-	-	475	-
1954	1335	4,360	May 4, 1954	34	233	-	-	287	-
1955	1385	10,500	Mar. 6, 1955	34	775	-	-	740	-
1956	1435	7,990	Mar. 30, 1956	51	1,006	-	-	1,042	-
1957	1505	7,780	Feb. 10, 1957	48	690	-	-	789	-
1958	1555	12,700	July 24, 1958	51	1,221	-	-	1,161	-
1959	1625	15,800	Jan. 23, 1959	52	868	-	-	892	-
1960	1705	6,740	Jan. 15, 1960	64	705	-	-	-	-

Note.--Figures of discharge in cubic feet per second per square mile and runoff in inches previously published in water-supply papers for water years 1953-58 have been found in error because of regulation by Tom Jenkins Reservoir. Those figures are not published herein and should not be used.

1600, Ohio River at Pomeroy, Ohio

Location--Lat 38°50'25", long 82°08'30", on left bank at Point Pleasant, Mason County, W. Va., 1,200 ft upstream from Kanawha River and at mile 265.4.

Drainage area--40,500 sq mi, approximately.

Records available--February to April 1936, December 1936 to February 1937, February 1940 to September 1960 (discharge not compiled for low-water periods since September 1952). Gage-height records collected at same site since 1889 are contained in reports of U.S. Weather Bureau.

Gage--Water-stage recorder. Datum of gage is 514.10 ft above mean sea level, Sandy Hook datum. In 1936 and 1937 staff gages at locks 24 and 25 at different datums. Feb. 7, 1940, to Sept. 30, 1951, water-stage recorder at site 0.3 mile upstream at present datum. Auxiliary water-stage recorder near left bank on downstream side of pier of bridge on U.S. Highway 33 at Pomeroy, 13.8 miles upstream from base gage.

Extremes--1936-37, 1940-60: Maximum discharge, 554,000 cfs Jan. 27, 1937 (gage height, 67.7 ft, pass sill gage, lock 24); minimum daily discharge not determined; minimum gage height since February 1940, 22.52 ft Sept. 10, 1956. Maximum discharge known, 633,000 cfs Mar. 30, 1913 (gage height, 70.1 ft, pass sill gage, lock 24).

Remarks--Flow partly regulated by locks, dams, and reservoirs upstream. Discharges less than 35,000 cfs have not been compiled since September 1952.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	19,230	66,290	134,900	146,100	157,100	140,200	131,200	62,040	53,540	34,710	8,323	7,382	79,610
1952	6,785	30,720	74,770	175,000	121,800	113,800	95,770	81,420	23,090	12,220	11,190	7,250	62,750
1953	-	-	-	-	65,830	79,240	82,410	81,080	-	-	-	-	-
1954	-	-	-	-	-	78,100	79,550	-	-	-	-	-	-
1955	-	-	-	-	-	177,000	-	-	-	-	-	-	-
1956	-	-	-	-	165,400	177,500	128,800	122,100	-	58,200	-	-	-
1957	-	-	-	80,140	104,200	70,400	145,800	-	-	-	-	-	-
1958	-	-	-	-	-	74,730	88,750	-	-	-	-	-	-
1959	-	-	-	-	144,600	92,630	86,260	67,610	-	-	-	-	-
1960	-	-	95,870	106,300	92,090	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	79,920	26.81
1951	1205	325,000	Dec. 8, 1950	-	79,610	1.97	26.69	70,530	23.64
1952	1235	372,000	Jan. 30, 1952	-	62,750	1.55	21.10	-	-
1953	1275	153,000	Mar. 27, 1953	-	-	-	-	-	-
1954	1335	162,000	Mar. 5, 1954	-	-	-	-	-	-
1955	1385	314,000	Oct. 19, 1954	-	-	-	-	-	-
1956	1435	316,000	Mar. 10, 1956	-	-	-	-	-	-
1957	1505	251,000	Apr. 9, 1957	-	-	-	-	-	-
1958	1555	275,000	May 8, 1958	-	-	-	-	-	-
1959	1625	365,000	Jan. 25, 1959	-	-	-	-	-	-
1960	1705	298,000	Apr. 3, 1960	-	-	-	-	-	-

1610. South Fork New River near Jefferson, N. C.

Location.--Lat 36°24', long 81°25', on right bank 600 ft upstream from bridge on State Highways 16 and 88, a quarter of mile downstream from Bear Creek, and 4 miles southeast of Jefferson, Ashe County.

Drainage area.--207 sq mi.

Records available.--October 1924 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 2,657.04 ft above mean sea level, unadjusted. Prior to Oct. 14, 1934, chain gage on old bridge 400 ft downstream at same datum. Oct. 14, 1934, to Mar. 25, 1935, staff gage at present site and datum.

Average discharge.--36 years (1924-60), 411 cfs.

Extremes.--1924-60: Maximum discharge, 52,800 cfs Aug. 14, 1940 (gage height, 22.50 ft), from rating curve extended above 5,100 cfs on basis of slope-area measurement of peak flow; minimum, 52 cfs Dec. 24, 1943, result of freezeup; minimum daily, 65 cfs Sept. 9, 1925.

Maximum stage known prior to 1924, 18.0 ft July 15, 1916, from floodmarks, witnessed by local resident (discharge, 35,200 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	351	343	797	408	512	570	722	366	331	259	196	157	417
1952	139	208	376	329	526	721	437	301	216	174	264	194	323
1953	158	277	275	526	579	829	462	410	317	228	151	140	362
1954	130	148	257	372	417	478	374	386	226	160	152	99.5	266
1955	117	162	263	215	384	558	604	332	277	349	358	202	318
1956	194	184	159	157	473	386	472	280	163	208	117	182	247
1957	305	363	316	378	735	549	1,037	435	705	413	237	498	494
1958	513	792	797	662	703	647	806	761	430	364	290	197	579
1959	191	183	342	385	266	339	521	368	331	285	206	619	343
1960	740	432	522	503	780	705	1,034	520	398	387	392	364	564

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.96	1.85	4.44	2.27	2.58	3.17	3.89	2.04	1.79	1.44	1.09	0.84	27.56
1952	.77	1.12	2.10	1.83	2.74	4.02	2.36	1.67	1.16	.97	1.47	1.04	21.25
1953	.88	1.49	1.53	2.93	2.91	4.62	2.49	2.28	1.71	1.27	.84	.76	23.71
1954	.72	.80	1.43	2.07	2.10	2.68	2.01	2.15	1.22	.89	.84	.54	17.43
1955	.65	.87	1.46	1.20	1.93	3.11	3.26	1.85	1.49	1.95	2.00	1.09	20.86
1956	1.08	.99	.89	.87	2.46	2.15	2.54	1.56	.88	1.16	.65	.98	16.21
1957	1.69	1.96	1.76	2.11	3.70	3.06	5.59	2.42	3.80	2.30	1.32	2.68	32.39
1958	2.86	4.27	4.44	3.69	3.54	3.60	4.35	4.24	2.32	2.03	1.62	1.06	38.02
1959	1.06	.99	1.90	2.14	1.34	1.89	2.81	2.05	1.78	1.59	1.60	3.34	22.49
1960	4.12	2.33	2.91	2.80	4.08	3.93	5.58	2.90	2.14	2.15	2.18	1.96	37.07

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	479	29.16
1951	1205	8,060	Dec. 7, 1950	139	417	2.01	27.36	352	23.10
1952	1235	4,100	Mar. 11, 1952	123	323	1.56	21.25	322	21.16
1953	1275	4,230	Mar. 24, 1953	101	362	1.75	23.71	347	22.76
1954	1335	3,530	Feb. 21, 1954	80	266	1.29	17.43	267	17.46
1955	1385	5,150	Apr. 14, 1955	84	318	1.54	20.86	318	20.84
1956	1435	2,250	Apr. 16, 1956	90	247	1.19	16.21	284	18.66
1957	1505	6,540	Apr. 5, 1957	132	494	2.39	32.39	568	38.55
1958	1555	3,400	Dec. 21, 1957	168	579	2.80	36.02	463	30.40
1959	1625	9,860	Sept. 30, 1959	100	343	1.66	22.49	425	27.90
1960	1705	4,530	Mar. 31, 1960	258	564	2.72	37.07	-	-

KANAWHA RIVER BASIN

1625. North Fork New River at Crumpler, N. C.

Location.--Lat 36°30', long 81°23', on left bank a quarter of a mile downstream from bridge on State Highway 16 at Crumpler, Ashe County, 6 miles upstream from mouth, and 7½ miles northeast of Jefferson.

Drainage area.--277 sq mi. At site used 1908-16, 279 sq mi.

Records available.--July to December 1900 and June to December 1901 (gage height and discharge measurements only), August 1908 to September 1916, July 1928 to December 1958. Published as "at Weaversford" 1900 to 1901 and as "near Crumpler" 1908-16. Records of discharge for July to December 1900 and June to December 1901 in WSP 83 have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Datum of gage is 2,518.81 ft above mean sea level, unadjusted. Prior to Sept. 30, 1916, staff or chain gages at sites from half a mile to 1½ miles upstream from mouth at various datums. July 11, 1928, to Nov. 5, 1930, chain gage at bridge a quarter of a mile upstream at different datum.

Average discharge.--38 years (1908-16, 1928-58), 472 cfs.

Extremes.--1908-16, 1928-58: Maximum discharge, 73,000 cfs Aug. 14, 1940 (gage height, 23.0 ft, from floodmarks; from rating curve extended above 3,400 cfs on basis of slope-area measurements at gage heights 10.72 and 23.0 ft; minimum, 38 cfs Sept. 19, 1932; minimum daily, 53 cfs Sept. 19, 1932, Sept. 19, 1954.

Floods of Sept. 12, 1878, and July 15, 1916, reached stages of 5.4 and 6.6 ft lower, respectively, than that of 1940 at the gage observer's home three-quarters of a mile upstream from present gage site, from information furnished by gage observer (discharges, 44,300 and 39,000 cfs, respectively). Floods of Apr. 20 and May 22, 1901, reached a stage of 16.4 ft, at site near Crumpler, from flood reference mark (discharge, 23,500 cfs). Stage and discharge for flood of Sept. 12, 1878, published in WSP 536 has been found to be unreliable and should not be used.

Remarks.--Some diurnal fluctuation at low flow caused by mills above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	245	244	858	440	544	682	774	441	345	250	187	145	429
1952	115	247	529	583	745	725	441	340	197	128	212	141	366
1953	111	208	248	688	730	864	438	409	318	232	115	96.0	370
1954	93.6	105	286	632	403	604	494	486	236	155	113	80.7	307
1955	119	187	398	314	723	1,346	819	406	239	214	234	126	426
1956	125	156	162	168	933	733	903	385	208	378	165	312	383
1957	362	415	368	859	1,440	588	1,204	347	796	319	184	350	595
1958	289	723	874	624	873	751	1,031	951	408	398	404	179	624
1959	170	186	429	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.02	0.98	3.57	1.83	2.05	2.84	3.12	1.83	1.39	1.04	0.78	0.58	21.03
1952	.48	1.00	2.20	2.43	2.90	3.02	1.78	1.41	.79	.53	.88	.57	17.99
1953	.46	1.84	1.03	2.86	2.74	3.60	1.77	1.70	1.28	.97	.48	.39	18.12
1954	.39	.42	1.19	2.63	1.51	2.51	1.99	2.02	.95	.65	.47	.33	15.06
1955	.50	.75	1.66	1.31	2.72	5.60	3.30	1.69	.96	.89	.97	.51	20.86
1956	.52	.63	.67	.70	3.63	3.05	3.64	1.60	.84	1.57	.69	1.26	18.80
1957	1.51	1.67	1.53	3.57	5.41	2.45	4.85	1.44	3.21	1.33	.77	1.41	29.15
1958	1.20	2.89	3.64	2.60	3.28	3.13	4.15	3.96	1.64	1.66	1.68	.72	30.55
1959	.71	.75	1.78	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	522	25.59
1951	1205	*17,100	Dec. 7, 1950	112	429	1.55	21.03	390	19.14
1952	1235	4,380	Feb. 3, 1952	72	366	1.32	17.99	339	16.64
1953	1275	5,730	Feb. 21, 1953	66	370	1.34	18.12	363	17.79
1954	1335	7,920	Jan. 22, 1954	53	307	1.11	15.06	326	15.97
1955	1385	7,900	Mar. 18, 1955	70	426	1.54	20.86	403	19.77
1956	1435	9,500	Apr. 16, 1956	90	383	1.38	18.80	441	21.69
1957	1505	10,100	Apr. 5, 1957	116	595	2.15	29.15	557	32.17
1958	1555	3,930	May 7, 1958	149	624	2.25	30.55	632	26.06
1959	1555	a7,950	Dec. 28, 1958	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-

* Revised.

a Maximum during period October to December.

1640. New River near Galax, Va.

Location (revised).--Lat 36°38'50", long 80°58'45", on left bank at upstream side of bridge on U.S. Highway 58, 500 ft downstream from Meadow Creek, 1.2 miles southwest of Old Town, 3.1 miles southwest of Galax, Carroll County, and 3.6 miles downstream from Elk Creek.

Drainage area.--1,131 sq mi.

Records available.--October 1929 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 2,208.04 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Average discharge.--31 years (1929-60), 1,824 cfs (revised).

Extremes.--1929-60: Maximum discharge, 141,000 cfs Aug. 14, 1940 (gage height, 25.7 ft, from floodmark), from rating curve extended above 32,000 cfs on basis of computation of peak flow over dam at Fries 6 miles downstream, and slope-area measurement of peak flow; minimum, 193 cfs Jan. 9, 1956 (gage height, 0.52 ft), result of freezeup.

Remarks.--Records of chemical analyses for the period October 1951 to September 1952 are published in report of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,242	1,216	3,445	1,652	2,307	2,775	3,254	1,613	1,412	1,128	913	665	1,799
1952	528	899	2,078	1,919	2,830	3,437	2,007	1,536	984	701	1,086	766	1,562
1953	650	1,159	1,041	2,336	2,731	3,797	1,852	1,720	1,235	912	604	491	1,538
1954	435	504	1,135	1,852	1,661	2,217	1,705	1,727	945	668	558	381	1,148
1955	536	783	1,379	1,117	2,412	4,346	3,281	1,706	1,255	1,507	1,258	704	1,687
1956	626	662	592	568	2,558	2,399	3,088	1,411	786	1,122	508	1,159	1,282
1957	1,491	1,811	1,538	2,342	4,714	2,639	5,443	1,921	2,752	1,414	850	1,805	2,568
1958	1,785	3,558	3,777	3,281	3,982	5,474	4,170	3,997	1,993	1,585	1,440	747	2,807
1959	754	710	1,773	2,024	1,185	1,497	2,966	1,325	1,281	995	845	1,997	1,445
1960	3,283	1,717	2,432	2,277	4,262	4,125	4,977	2,223	1,434	1,522	1,308	1,110	2,549

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.27	1.20	3.52	1.68	2.12	2.82	3.21	1.65	1.40	1.15	0.93	0.66	21.61
1952	.54	.89	2.12	1.96	2.70	3.50	1.98	1.57	.97	.71	1.11	.76	18.81
1953	.66	1.14	1.06	2.39	2.51	3.87	1.83	1.75	1.22	.93	.62	.48	18.46
1954	.44	.50	1.15	1.89	1.53	2.26	1.68	1.76	.93	.68	.57	.38	13.77
1955	.55	.77	1.41	1.14	2.22	4.43	3.24	1.74	1.24	1.53	1.28	.69	20.24
1956	.64	.65	.60	.58	2.44	2.44	3.05	1.44	.78	1.14	.52	1.14	15.42
1957	1.52	1.78	1.57	2.39	4.34	2.69	5.37	1.96	2.71	1.44	.87	1.78	28.42
1958	1.82	3.49	3.85	3.34	3.66	3.54	4.12	4.07	1.96	1.61	1.46	.74	33.66
1959	.77	.70	1.81	2.06	1.09	1.53	2.93	1.35	1.26	1.01	.86	1.97	17.34
1960	3.35	1.69	2.48	2.32	4.06	4.21	4.91	2.27	1.41	1.55	1.33	1.10	30.68

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1950	-	-	-	-	-	-	-	2,050	-	24.59	-
1951	1205	38,000	Dec. 7, 1950	528	1,799	1.59	21.61	1,597	19.17	-	-
1952	1235	14,500	Mar. 11, 1952	450	1,562	1.38	18.81	1,506	18.12	-	-
1953	1275	15,900	Feb. 21, 1953	322	1,538	1.36	18.46	1,474	17.69	-	-
1954	1335	16,400	Jan. 23, 1954	265	1,148	1.02	13.77	1,200	14.41	-	-
1955	1385	23,900	Apr. 14, 1955	322	1,687	1.49	20.24	1,617	19.40	-	-
1956	1435	19,600	Apr. 16, 1956	350	1,282	1.13	15.42	1,529	18.40	-	-
1957	1505	33,300	Apr. 5, 1957	544	2,368	2.09	28.42	2,725	32.71	-	-
1958	1555	13,700	Jan. 14, 1958	640	2,807	2.48	33.66	2,316	27.78	-	-
1959	1625	40,700	Sept. 30, 1959	500	1,445	1.28	17.34	1,798	21.58	-	-
1960	1705	24,900	Mar. 31, 1960	818	2,549	2.25	30.68	-	-	-	-

KANAWHA RIVER BASIN

1650. Chestnut Creek at Galax, Va.

Location.--Lat 36°38'45", long 80°55'10", on right bank 200 ft upstream from bridge on State Highway 89, 0.6 mile south of Galax, Carroll County, and 1.7 miles downstream from Wards Mill Branch.

Drainage area.--39 sq mi, approximately.

Records available.--September 1944 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,344.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to June 25, 1948, staff gage and June 25, 1948, to May 28, 1953, water-stage recorder, at site 200 ft upstream at datum 0.86 ft higher.

Average discharge.--16 years, 67.3 cfs.

Extremes.--1944-60: Maximum discharge, 6,980 cfs Oct. 17, 1947 (gage height, 14.4 ft, from floodmark, site and datum then in use), from rating curve extended above 2,200 cfs on basis of slope-area and contracted-opening measurements at 9.5, 14.4, and 17.4 ft; minimum, 13 cfs Jan. 5, 1956 (gage height, 0.70 ft), result of freezeup.
Flood of Aug. 14, 1940, reached a stage of 17.4 ft at site and datum used 1944-53 (discharge, 11,000 cfs, by contracted-opening measurement).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	50.3	60.3	107	45.3	72.0	85.4	117	69.5	73.4	50.7	48.2	37.5	67.8
1952	28.5	54.9	79.5	59.9	90.6	128	85.9	71.1	47.8	41.8	71.8	49.5	67.4
1953	33.3	61.8	70.5	67.5	87.3	127	80.8	58.5	53.8	35.4	26.6	24.7	60.5
1954	24.4	28.4	45.4	61.1	83.1	98.0	61.8	53.9	40.8	30.1	24.3	18.6	47.3
1955	26.9	40.2	55.3	36.1	61.5	80.3	97.0	47.0	47.3	62.4	46.5	29.8	52.4
1956	29.6	29.7	26.1	23.9	52.1	51.9	58.9	34.2	29.3	37.9	19.9	70.7	38.5
1957	78.7	69.2	59.7	56.5	105	87.1	168	64.4	64.5	42.7	28.6	85.3	75.2
1958	62.1	101	112	89.6	92.9	92.2	107	95.0	68.8	44.3	43.0	28.8	78.8
1959	31.9	30.8	66.7	63.5	41.2	53.9	72.3	57.2	37.2	34.4	34.6	124	53.9
1960	93.8	61.1	79.6	69.5	141	114	136	92.4	64.2	47.6	51.4	48.4	82.9

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.49	1.73	3.16	1.34	1.93	2.47	3.35	2.05	2.10	1.50	1.43	1.07	23.62
1952	.84	1.57	2.35	1.78	2.50	3.78	2.46	2.10	1.37	1.23	2.12	1.42	23.52
1953	.98	1.76	2.09	1.99	2.33	3.76	2.31	1.73	1.54	1.05	.79	.71	21.04
1954	.72	.81	1.34	1.81	2.22	2.89	1.76	1.59	1.17	.89	.72	.53	16.45
1955	.80	1.15	1.64	1.07	1.64	2.38	2.78	1.40	1.35	1.84	1.37	.85	18.27
1956	.88	.85	.77	.71	1.44	1.53	1.68	1.01	.84	1.12	.59	2.02	13.44
1957	2.33	1.98	1.76	1.67	2.80	2.57	4.75	1.90	1.84	1.26	.85	2.44	26.15
1958	1.83	2.89	3.31	2.94	2.48	2.72	3.06	2.81	1.96	1.31	1.27	.82	27.40
1959	.94	.88	1.97	1.88	1.10	1.59	2.07	1.69	1.07	1.02	1.02	3.53	18.76
1960	2.77	1.75	2.35	2.06	3.89	3.36	3.88	2.73	1.84	1.41	1.52	1.39	28.95

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	67.2	23.40
1951	1205	3,300	Dec. 7, 1950	29	67.8	1.74	23.62	63.2	22.00
1952	1235	2,540	Mar. 11, 1952	20	67.4	1.73	23.52	67.7	23.59
1953	1275, 1385	780	(a)	14	60.5	1.55	21.04	54.8	19.08
1954	1385	2,300	Mar. 1, 1954	14	47.3	1.21	16.45	49.3	17.17
1955	1385	1,280	Apr. 14, 1955	16	52.4	1.34	18.27	49.3	17.18
1956	1435	1,560	Sept. 27, 1956	15	38.5	.987	13.44	48.8	17.01
1957	1505	1,500	Apr. 5, 1957	22	75.2	1.93	26.15	80.9	28.11
1958	1555	1,100	Dec. 21, 1957	26	78.8	2.02	27.40	66.6	23.16
1959	1625	4,100	Sept. 30, 1959	21	53.9	1.38	18.76	62.8	21.84
1960	1705	1,140	Feb. 5, 1960	36	82.9	2.13	28.95	-	-

a Nov. 21, 1952, Mar. 23, 1953.

1655. New River at Ivanhoe, Va.

Location.--Lat 36°50'05", long 80°57'10", on left bank at Ivanhoe, Wythe County, 2.1 miles downstream from Big Branch, and 2.3 miles (revised) upstream from Cripple Creek.

Drainage area.--1,340 sq mi.

Records available.--August to December 1927, October 1929 to September 1960. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected in this vicinity, October 1916 to July 1943, are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 1,943.09 ft above mean sea level, datum of 1929.

Average discharge.--31 years (1929-60), 2,068 cfs.

Extremes.--1929-60: Maximum discharge, 155,000 cfs Aug. 14, 1940 (gage height, 38.1 ft, from floodmarks), from rating curve extended above 32,000 cfs on basis of flood records for other stations on New River; minimum, 92 cfs Sept. 8, 1930 (gage height, 0.89 ft); minimum daily, 184 cfs July 28, 1930.

Flood in July 1916 reached a stage of 34.8 ft, from floodmark (discharge, 132,000 cfs, from rating curve extended above 32,000 cfs as explained above). Flood in September 1878 was about 5 ft lower than flood in July 1916 and was highest known from 1840 to 1916.

Remarks.--Flow regulated by powerplants at Buck, 2.8 miles above station, and at Byllesby, 5.5 miles above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,430	1,437	3,830	1,988	2,725	3,140	3,991	2,078	1,862	1,323	1,099	799	2,138
1952	626	1,125	2,368	2,212	3,135	3,979	2,453	1,849	1,071	845	1,390	885	1,826
1953	698	1,260	1,327	2,706	3,230	4,392	2,308	2,027	1,682	1,184	743	592	1,839
1954	547	638	1,226	2,309	2,113	2,943	2,130	2,084	1,141	757	607	433	1,408
1955	589	889	1,558	1,265	2,699	4,251	3,494	1,808	1,333	1,626	1,534	859	1,820
1956	768	861	795	720	2,841	2,730	3,194	1,569	934	1,301	606	1,341	1,463
1957	1,599	1,967	1,682	2,505	5,026	3,010	5,818	1,956	2,745	1,520	911	2,017	2,556
1958	1,987	3,333	3,699	3,102	3,435	3,164	4,413	4,220	2,179	1,767	1,684	877	2,818
1959	915	848	1,958	2,210	1,288	1,626	3,391	1,747	1,479	1,261	974	2,301	1,666
1960	3,691	1,835	2,581	2,427	4,671	4,536	5,993	2,795	1,924	1,794	1,565	1,301	2,918

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.23	1.19	3.30	1.71	2.11	2.70	3.32	1.79	1.55	1.14	0.95	0.66	21.65
1952	.54	.94	2.04	1.90	2.52	3.42	2.04	1.59	.89	.73	1.20	.74	18.55
1953	.60	1.05	1.14	2.33	2.51	3.78	1.92	1.74	1.41	1.02	.64	.49	18.63
1954	.47	.53	1.05	1.98	1.64	2.54	1.77	1.80	.95	1.65	.52	.36	14.26
1955	.51	.74	1.34	1.09	2.09	3.68	2.91	1.56	1.11	1.40	1.31	.72	18.44
1956	.66	.72	.68	.62	2.29	2.35	2.66	1.35	.78	1.12	.52	1.12	14.87
1957	1.37	1.64	1.45	2.16	3.30	2.59	4.84	1.68	2.29	1.30	.78	1.68	25.68
1958	1.71	2.78	3.18	2.66	2.67	2.72	3.67	3.63	1.82	1.52	1.45	.73	28.54
1959	.79	.71	1.68	1.90	1.00	1.40	2.82	1.50	1.23	1.08	.84	1.92	16.87
1960	3.18	1.53	2.22	2.09	3.76	3.90	4.99	2.40	1.60	1.54	1.35	1.08	29.64

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	2,319	-	23.46
1951	1205	38,500	Dec. 8, 1950	604	2,138	1.60	21.65	1,920	19.45	
1952	1235	21,300	Mar. 11, 1952	462	1,826	1.36	18.55	1,755	17.82	
1953	1275	19,500	Mar. 24, 1953	302	1,839	1.37	18.63	1,766	17.89	
1954	1335	19,500	Mar. 1, 1954	282	1,408	1.05	14.26	1,461	14.80	
1955	1385	25,000	Apr. 14, 1955	273	1,820	1.36	18.44	1,768	17.91	
1956	1435	20,300	Apr. 16, 1956	288	1,463	1.09	14.87	1,699	17.27	
1957	1505	34,200	Apr. 5, 1957	386	2,536	1.89	25.68	2,853	28.89	
1958	1555	22,700	Jan. 14, 1958	498	2,818	2.10	28.54	2,375	24.05	
1959	1625	42,100	Sept. 30, 1959	375	1,666	1.24	16.87	2,036	20.62	
1960	1705	25,900	Mar. 31, 1960	875	2,918	2.18	29.64	-	-	

KANAWHA RIVER BASIN

1670. Reed Creek at Grahams Forge, Va.

Location.--Lat 36°56'20", long 80°53'15", on right bank 35 ft upstream from highway bridge at Grahams Forge, Wythe County, 2.2 miles (revised) downstream from Glade Creek and 7.3 miles upstream from mouth.

Drainage area.--247 sq mi.

Records available.--July 1908 to September 1916, January 1927 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,924.65 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1916, chain gage at same site at datum 0.68 ft lower. Feb. 3, 1927, to Oct. 28, 1934, chain gage at present site and datum.

Average discharge.--41 years (1908-16, 1927-60), 260 cfs.

Extremes.--1908-16, 1927-60: Maximum discharge, 17,500 cfs (revised) July 16, 1916 (gage height, 11.4 ft, present datum, from floodmarks), from rating curve extended above 7,600 cfs on basis of velocity-area study; minimum observed, about 5 cfs Dec. 22, 1909 (gage height, 0.49 ft, present datum), result of freezeup; minimum daily, 22 cfs Jan. 30, 1934.

Revisions.--The momentary maximum discharges for the water years 1913 and 1916, published in WSP 1305, have been revised to 15,200 and 17,500 cfs, respectively.

Corrections.--In WSP 1305, runoff in inches for the calendar year 1915 was listed in error; the figure should be 14.86.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	126	113	465	218	268	495	565	274	146	99.8	133	96.4	250
1952	74.8	98.9	195	398	406	515	274	200	99.5	82.7	120	72.2	211
1953	68.7	116	107	288	498	657	240	458	229	332	104	83.6	264
1954	65.5	68.9	106	371	222	425	271	247	114	144	85.9	75.8	183
1955	86.5	96.5	241	174	519	1,406	531	193	129	103	101	70.2	304
1956	68.4	67.7	67.1	66.2	344	347	595	340	119	154	89.5	103	196
1957	120	188	183	676	1,411	541	824	190	182	115	88.3	119	379
1958	129	373	385	362	355	693	834	731	178	134	136	87.1	367
1959	83.1	84.3	142	207	153	247	617	191	146	87.4	102	106	180
1960	237	202	312	294	683	756	677	274	138	136	95.9	82.8	323

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.59	0.51	2.17	1.02	1.14	2.31	2.56	1.28	0.66	0.47	0.62	0.44	13.77
1952	.35	.45	.91	1.86	1.77	2.41	1.24	.93	.45	.39	.56	.33	11.65
1953	.32	.52	.50	1.35	2.10	3.07	1.08	2.13	1.03	1.54	.49	.38	14.51
1954	.31	.31	.49	1.73	.94	1.98	1.23	1.15	.52	.67	.39	.34	10.06
1955	.40	.45	1.13	.81	2.19	6.56	2.40	.90	.58	.48	.47	.32	16.69
1956	.32	.31	.31	.31	1.50	1.61	2.69	1.59	.54	.72	.42	.47	10.79
1957	.56	.85	.85	3.15	5.95	2.52	3.72	.89	.82	.54	.41	.54	20.80
1958	.60	1.68	1.80	1.70	1.50	3.24	3.77	3.41	.80	.63	.64	.39	20.16
1959	.39	.38	.66	.97	.65	1.15	2.79	.89	.66	.41	.47	.46	9.90
1960	1.11	.91	1.46	1.37	2.98	3.53	3.06	1.28	.62	.63	.45	.37	17.77

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	311	17.07
1951	1205	4,090	Dec. 8, 1950	71	250	1.01	13.77	222	12.21
1952	1235	1,690	Jan. 29, 1952	63	211	.854	11.65	205	11.28
1953	1275	4,090	Feb. 21, 1953	63	264	1.07	14.51	260	14.28
1954	1335	4,820	Jan. 23, 1954	56	183	.741	10.69	199	10.93
1955	1385	6,720	Apr. 14, 1955	59	304	1.23	16.69	285	15.65
1956	1435	4,780	Apr. 16, 1956	46	196	.794	10.79	220	12.11
1957	1705	7,800	Jan. 30, 1957	66	379	1.53	20.80	412	22.62
1958	1555	4,820	Mar. 31, 1958	76	367	1.49	20.16	318	17.51
1959	1625	4,100	Apr. 13, 1959	54	180	.729	9.90	217	11.95
1960	1705	4,060	Mar. 31, 1961	69	323	1.31	17.77	-	-

1675. Big Reed Island Creek near Allisonia, Va.

Location.--Lat 36°53'20", long 80°43'40", on left bank 700 ft downstream from highway bridge, 3.5 miles southeast of Allisonia, Pulaski County, 4 miles upstream from Little Reed Island Creek, and 4.5 miles upstream from mouth.

Drainage area.--278 sq mi.

Records available.--August 1908 to September 1916, April 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,902.74 ft above mean sea level, datum of 1929. Aug. 2, 1908, to Sept. 30, 1916, staff gage at site 4 miles downstream at different datum.

Average discharge.--29 years (1908-16, 1939-60), 405 cfs.

Extremes.--1908-16, 1939-60: Maximum discharge, 14,500 cfs Sept. 30, 1959 (gage height, 12.54 ft), from rating curve extended above 6,000 cfs on basis of slope-area measurement of peak flow; minimum recorded, 81 cfs Dec. 16, 1943 (gage height, 1.78 ft), result of freezeup, but may have been less during other periods of ice effect; minimum daily, 64 cfs Sept. 17, 1956.

Revisions.--Some periods in the water years 1940 and 1947, and the maximums for 1940, 1945, and 1947, were revised in WSP 1625, the resulting revised records as summarized here--with supersede those published in WSP 1305:

Month	Mean	Per square mile	Runoff in inches	Momentary maximum		Minimum day
				Discharge	Date	
August 1940.....	1,121	-	4.65	-	-	-
Water year 1939-40..	387	1.39	18.93	13,000	Aug. 14, 1940	110
Calendar year 1940..	435	-	21.29	-	-	-
Water year 1944-45..	407	1.46	19.89	8,670	June 10, 1945†	150
June 1947.....	710	-	2.84	-	-	-
Water year 1946-47..	400	1.44	19.54	10,500	June 14, 1947	175
Calendar year 1947..	448	-	21.88	-	-	-

† Corrected

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	217	252	547	282	490	482	764	402	422	288	211	183	377
1952	162	274	477	377	431	804	549	440	247	227	362	305	388
1953	197	339	346	393	592	820	461	417	380	268	188	141	377
1954	136	150	278	391	358	542	349	344	230	177	172	135	272
1955	211	260	379	285	469	728	626	380	401	265	276	177	369
1956	189	191	192	196	370	356	540	267	230	182	120	281	257
1957	289	338	367	390	683	481	940	398	534	300	205	714	466
1958	434	674	752	622	575	575	734	794	502	378	291	181	542
1959	196	193	346	385	259	331	485	315	201	246	206	662	318
1960	703	412	515	464	849	811	926	586	417	297	292	243	542

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.90	1.01	2.27	1.16	1.83	1.99	3.07	1.67	1.70	1.20	0.88	0.73	18.41
1952	.67	1.10	1.98	1.57	1.67	3.33	2.20	1.82	.99	1.84	1.50	1.23	19.00
1953	.82	1.36	1.43	1.83	2.22	3.40	1.85	1.73	1.53	1.11	.78	.57	18.43
1954	.56	.60	1.15	1.63	1.34	2.25	1.41	1.43	.92	.73	.71	.54	13.27
1955	.88	1.04	1.57	1.10	1.76	3.02	2.51	1.58	1.61	1.10	1.14	.71	18.02
1956	.78	.73	.80	.81	1.43	1.48	2.16	1.11	.92	.76	.50	1.13	12.61
1957	1.20	1.36	1.52	1.61	2.56	1.99	3.77	1.65	2.14	1.24	.85	2.87	22.76
1958	1.80	2.70	3.12	2.58	2.16	2.39	2.94	3.30	2.02	1.57	1.21	.73	26.52
1959	.81	.77	1.43	1.60	.97	1.37	1.94	1.31	.81	1.02	.85	2.66	15.54
1960	2.92	1.65	2.14	1.92	3.29	3.36	3.72	2.43	1.67	1.23	1.21	.98	26.52

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	401	19.60
1951	1205	9,390	Dec. 7, 1950	143	377	1.36	18.41	368	17.98
1952	1235	9,750	Mar. 11, 1952	138	388	1.40	19.00	386	18.86
1953	1275	8,500	Mar. 24, 1953	105	377	1.36	18.43	351	17.13
1954	1335	9,450	Mar. 1, 1954	86	272	.978	13.27	296	14.45
1955	1385	5,550	Apr. 14, 1955	96	369	1.33	18.02	345	16.84
1956	1435	5,070	Apr. 16, 1956	84	257	.924	12.61	294	14.38
1957	1505	8,610	Sept. 17, 1957	147	466	1.68	22.76	539	26.30
1958	1555	4,010	Jan. 14, 1958	154	542	1.95	26.52	448	21.91
1959	1625	14,500	Sept. 30, 1959	94	318	1.14	15.54	395	19.32
1960	1705	6,770	Feb. 11, 1960	180	542	1.95	26.52	-	-

1680. New River at Allisonia, Va.

Location.--Lat 36°56'15", long 80°44'45", on left bank a quarter of a mile downstream from Big Reed Island Creek and half a mile upstream from Allisonia, Pulaski County.

Drainage area.--2,202 sq mi.

Records available.--September 1929 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,848.36 ft above mean sea level, datum of 1929.

Average discharge.--31 years (1929-60), 3,053 cfs.

Extremes.--1929-60: Maximum discharge, 185,000 cfs Aug. 14, 1940 (gage height, 23.42 ft), from rating curve extended above 52,000 cfs on basis of flood records for other stations on New River; minimum, 412 cfs Sept. 7, 1930 (gage height, 0.47 ft); minimum daily, 453 cfs Sept. 6, 1930.

Remarks.--Flow regulated by powerplants 25 miles above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,843	1,901	5,395	2,638	3,755	4,380	5,973	2,987	2,552	1,865	1,624	1,233	3,007
1952	1,018	1,650	3,247	3,271	4,348	5,719	3,520	2,687	1,608	1,303	2,095	1,426	2,655
1953	1,114	1,972	1,957	3,648	4,777	6,417	3,244	3,169	2,603	1,880	1,246	982	2,740
1954	889	1,000	1,833	3,378	2,876	4,288	3,022	2,933	1,642	1,248	1,014	788	2,074
1955	1,053	1,391	2,419	1,937	4,093	7,672	5,116	2,602	2,051	2,178	2,094	1,235	2,814
1956	1,184	1,221	1,149	1,018	3,877	3,450	4,838	2,375	1,440	1,868	948	1,997	2,101
1957	2,324	2,770	2,453	3,934	8,069	4,599	8,560	2,907	3,849	2,176	1,386	3,152	3,805
1958	2,828	4,894	5,392	4,682	5,041	5,229	6,807	6,495	3,187	2,450	2,323	1,266	4,211
1959	1,350	1,284	2,762	3,325	2,121	2,731	5,089	2,493	2,017	1,755	1,409	3,029	2,445
1960	5,215	2,829	4,031	3,699	7,107	6,960	8,653	4,604	2,871	2,417	2,146	1,741	4,345

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.96	0.96	2.82	1.38	1.78	2.29	3.02	1.57	1.29	0.98	0.85	0.62	18.52
1952	1.53	1.84	1.70	1.72	2.12	3.00	1.78	1.41	.81	.68	1.10	.72	16.41
1953	.58	1.00	1.02	1.91	2.28	3.36	1.64	1.66	1.32	.98	.65	.50	16.88
1954	.47	.51	.96	1.76	1.36	2.25	1.53	1.53	.83	.65	.53	.40	12.76
1955	.55	.71	1.27	1.01	1.94	4.01	2.59	1.36	1.04	1.14	1.10	.62	17.34
1956	.62	.62	.60	.53	1.90	1.81	2.46	1.24	.73	.98	.50	1.01	13.00
1957	1.22	1.41	1.28	2.08	3.81	2.41	4.34	1.52	1.95	1.14	.73	1.60	23.47
1958	1.48	2.48	2.82	2.46	2.58	2.73	3.45	3.40	1.62	1.28	1.21	.64	25.95
1959	.71	.65	1.45	1.74	1.00	1.43	2.58	1.31	1.02	.92	.74	1.53	15.08
1960	2.73	1.43	2.11	1.94	3.48	3.64	4.38	2.41	1.45	1.27	1.12	.88	26.84

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	3,338	20.55
1951	1205	49,500	Dec. 8, 1950	1,010	3,007	1.37	18.52	2,734	16.85
1952	1235	31,500	Mar. 11, 1952	808	2,655	1.21	16.41	2,581	15.94
1953	1275	30,800	Mar. 24, 1953	684	2,740	1.24	16.88	2,631	16.22
1954	1335	33,400	Mar. 1, 1954	604	2,074	.942	12.78	2,170	13.37
1955	1385	36,200	Apr. 14, 1955	575	2,814	1.28	17.34	2,703	16.65
1956	1435	28,200	Apr. 16, 1956	582	2,101	.954	13.00	2,435	15.07
1957	1505	51,300	Apr. 5, 1957	688	3,805	1.75	23.47	4,272	26.34
1958	1555	27,300	Jan. 14, 1958	965	4,211	1.91	25.95	3,566	21.98
1959	1625	64,200	Sept. 30, 1959	755	2,445	1.11	15.08	3,008	18.54
1960	1705	39,000	Mar. 31, 1960	1,310	4,345	1.97	26.84	-	-

1685. Peak Creek at Pulaski, Va.

Location.--Lat 37°02'50", long 80°46'35", on right bank at upstream side of bridge on Second Street at Pulaski, Pulaski County, 0.6 mile downstream from Tract Fork (corrected) and 8.7 miles upstream from mouth.

Drainage area.--60.9 sq mi.

Records available.--January 1927 to December 1929, August 1930 to September 1933, June 1951 to September 1957, water years 1958-60 (annual maximum). Monthly discharge only for some periods, published in WSP 1305.

Gage.--Crest-stage gage. Datum of gage is 1,897.79 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Feb. 3, 1927, to July 14, 1933, chain gage at bridge 0.2 mile upstream at datum 5.84 ft higher. June 8, 1951, to Sept. 30, 1957, water-stage recorder at present site and datum.

Average discharge.--11 years (1927-29, 1930-33, 1951-57), 53.0 cfs (adjusted).

Extremes.--1927-29, 1930-33, 1951-60: Maximum discharge, 4,830 cfs Mar. 1, 1954 (gage height, 10.03 ft), from rating curve extended above 2,300 cfs on basis of slope-area measurement of peak flow.

1927-29, 1930-33, 1951-57: Minimum discharge observed, 0.3 cfs Sept. 4, 5, 1930 (gage height, 1.36 ft, site and datum then in use).

Remarks.--Diversion above station from Pulaski Reservoir for municipal supply.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	8.63	4.47	5.10	-
1952	2.68	8.41	42.4	103	82.1	164	77.9	28.4	4.89	2.81	26.9	4.12	45.7
1953	3.09	15.8	21.1	72.4	159	175	47.6	77.8	49.4	14.9	6.38	2.81	53.2
1954	2.54	4.95	20.6	97.8	49.2	147	63.5	56.8	19.1	13.6	7.55	4.16	40.7
1955	9.17	12.2	68.3	34.6	158	262	108	15.6	8.91	4.75	9.85	2.31	57.3
1956	2.52	4.77	4.45	4.58	80.6	74.8	133	54.8	8.19	35.3	3.69	5.98	34.1
1957	23.2	51.2	34.2	177	264	124	199	17.2	26.1	7.73	3.24	25.8	77.9
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches (adjusted) ^a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	0.20	0.12	0.12	-
1952	0.09	0.20	0.84	1.98	1.49	3.15	1.46	0.57	0.13	0.09	.55	.11	10.66
1953	.09	.32	.43	1.41	2.75	3.36	.90	1.51	.94	.32	.16	.09	12.28
1954	.06	.10	.40	1.86	.87	2.80	1.19	1.10	.38	.29	.17	.09	9.31
1955	.20	.25	1.31	.68	2.74	4.99	2.02	.32	.19	.12	.22	.07	13.11
1956	.08	.11	.11	.12	1.46	1.44	2.46	1.06	.18	.70	.10	.14	7.96
1957	.47	.96	.67	5.37	4.53	2.36	3.66	.35	.50	.17	.09	.50	17.63
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

^a Adjusted for diversion by town of Pulaski.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Observed			Adjusted ^a /			Observed		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	-	-
1951	1205	-	-	-	-	-	-	-	-	-
1952	1235	1,010	Mar. 23, 1952	1.4	45.7	47.7	0.783	10.66	44.5	46.4
1953	1279	2,500	June 17, 1953	1.3	53.2	55.0	.903	12.28	52.2	53.7
1954	1335	4,830	Mar. 1, 1954	1.6	40.7	41.8	.686	9.31	45.9	47.2
1955	1385	3,290	Apr. 14, 1955	1.4	57.3	58.8	.966	13.11	50.7	52.2
1956	1435	1,400	Apr. 16, 1956	1.7	34.1	35.6	.585	7.96	42.1	43.5
1957	1505	4,140	Jan. 29, 1957	1.0	77.9	79.3	1.30	17.63	-	-
1958	-	1,650	-	-	-	-	-	-	-	-
1959	-	2,160	Sept. 30, 1959	-	-	-	-	-	-	-
1960	-	1,600	Feb. 6, 1960	-	-	-	-	-	-	-

^a Adjusted for diversion by town of Pulaski.

KANAWHA RIVER BASIN

1690. Claytor Reservoir near Radford, Va.

Location.--Lat 37°04', long 80°35', at Claytor Dam on New River, 5.5 miles upstream from Radford, Montgomery County, and 0.5 mile upstream from Little River.

Drainage area.--2,382 sq mi.

Records available.--May 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at approximately mean sea level (levels by Appalachian Power Co.). Prior to Sept. 11, 1943, nonrecording gage.

Remarks.--Reservoir is formed by gravity overflow concrete dam. Spillway with crest at elevation 1,818.5 ft is equipped with nine lift gates 30 ft high by 50 ft wide. Dam completed and storage began May 22, 1939; water in reservoir reached minimum pool elevation in January 1940. Total level pool capacity at elevation 1,847.0 ft (1.5 ft below top of gates) is 232,000 acre-ft of which 100,000 acre-ft is controlled storage above elevation 1,820.0 ft (minimum pool). Reservoir is used for power.

Cooperation.--Records furnished by Appalachian Power Co.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	198,600	199,400	212,200	201,300	208,100	222,500	209,900	205,400	208,300	206,800	194,000	190,100
1952	194,600	220,000	215,500	211,900	212,600	210,300	221,400	215,700	224,600	225,900	214,900	216,900
1953	210,200	217,800	206,100	219,300	210,100	198,500	201,600	208,600	224,700	218,800	218,700	213,400
1954	199,800	195,300	195,600	195,700	217,500	215,900	216,100	219,300	222,700	225,100	222,400	208,100
1955	207,500	224,100	220,900	209,400	217,700	215,200	208,200	222,900	223,200	224,100	224,200	218,100
1956	212,500	209,700	194,300	193,200	221,400	219,200	221,900	220,300	219,600	221,500	223,700	219,200
1957	215,600	217,000	213,800	221,800	196,600	206,900	201,700	217,800	216,800	223,200	222,300	193,600
1958	201,900	205,600	212,400	209,200	219,100	212,600	205,000	214,800	221,100	218,600	215,000	214,200
1959	215,100	215,700	222,100	205,400	197,400	217,500	209,400	222,700	224,700	216,100	225,100	222,300
1960	202,900	201,600	203,000	207,900	210,900	223,600	213,700	219,300	217,700	222,900	220,600	210,200

1700. Little River at Graysonton, Va.

Location.--Lat 37°02'15", long 80°33'25", on left bank at upstream side of highway bridge at Snowville, Pulaski County, half a mile upstream from Graysonton, 7 miles south of Radford, and 8.6 miles (revised) upstream from mouth.

Drainage area.--300 sq mi.

Records available.--October 1928 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,816.04 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Nov. 20, 1931, chain gage at bridge 1 mile downstream at datum 17.99 ft lower. Nov. 20, 1931, to Nov. 12, 1941, water-stage recorder $1\frac{1}{4}$ miles downstream at datum 20.58 ft lower.

Average discharge.--32 years (1928-60), 373 cfs.

Extremes.--1928-60: Maximum discharge, 18,500 cfs Sept. 30, 1959 (gage height, 12.76 ft), from rating curve extended above 6,000 cfs on basis of slope-area measurement; minimum, 21 cfs Feb. 22, 1942, result of freezeup; minimum daily, 50 cfs Sept. 21, 1932.

Correction.--In WSP 1305, a maximum daily discharge was published for 1936; the corresponding momentary maximum is now estimated to be 9,200 cfs (affected by ice) on Feb. 14, 1936.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	242	228	670	254	457	533	809	372	453	280	205	159	388
1952	155	225	402	417	461	684	494	385	247	202	511	352	359
1953	171	285	293	437	510	783	382	425	253	†165	125	88.5	326
1954	86.7	110	176	350	288	396	254	338	183	131	132	83.2	211
1955	298	203	299	209	451	836	522	308	324	263	330	199	353
1956	172	169	148	125	377	322	575	262	186	189	91.7	232	236
1957	336	355	304	365	866	493	848	319	358	216	142	601	429
1958	349	490	540	477	547	617	770	810	429	284	210	126	470
1959	150	153	375	341	201	277	478	244	165	136	144	569	269
1960	716	363	445	382	851	862	898	498	345	259	242	261	509

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.93	0.85	2.57	0.98	1.58	2.05	3.01	1.43	1.68	1.08	0.79	0.59	17.54
1952	.52	.84	1.54	1.60	1.66	2.63	1.84	1.48	.92	.78	1.20	1.30	16.31
1953	.66	1.05	1.13	1.68	1.77	3.01	1.42	1.64	.94	.63	.48	.33	14.74
1954	.33	.41	.68	1.35	1.00	1.52	.94	1.30	.68	.50	.51	.31	9.53
1955	1.14	.76	1.15	.80	1.56	3.22	1.94	1.19	1.20	1.01	1.27	.74	15.98
1956	.66	.63	.57	.48	1.36	1.23	2.14	1.01	.69	.73	.35	.86	10.71
1957	1.29	1.32	1.16	1.41	3.01	1.89	3.16	1.22	1.33	.83	.55	2.23	19.40
1958	1.34	1.82	2.08	1.83	1.90	2.38	2.87	3.11	1.60	1.09	.81	.47	21.30
1959	.58	.57	1.44	1.31	.70	1.06	1.78	.94	.61	.52	.55	2.12	12.18
1960	2.75	1.35	1.71	1.47	3.06	3.31	3.34	1.91	1.28	1.00	.93	.97	23.08

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	402	18.18
1951	1205	13,900	Dec. 8, 1950	130	388	1.29	17.54	356	16.09
1952	1235	6,860	Mar. 11, 1952	118	359	1.20	16.31	358	16.25
1953	1275	7,610	Mar. 24, 1953	69	326	1.09	14.74	294	13.32
1954	1335	3,950	Mar. 1, 1954	52	211	.703	9.53	247	11.16
1955	1385	8,400	Oct. 16, 1954	59	353	1.18	15.98	327	14.79
1956	1435	4,600	Apr. 16, 1956	58	236	.787	10.71	278	12.62
1957	1505	9,660	Sept. 17, 1957	100	429	1.43	19.40	461	20.87
1958	1555	3,930	Jan. 14, 1958	102	470	1.57	21.30	412	18.65
1959	1625	18,500	Sept. 30, 1959	74	269	.897	12.18	340	15.40
1960	1705	5,070	Feb. 11, 1960	164	509	1.70	23.08	-	-

1710. New River at Radford, Va.

Location.--Lat 37°08'30", long 80°34'10", on left bank 2,000 ft downstream from bridge on U.S. Highway 11 at Radford, Montgomery County, 5 miles downstream from Little River, and 5½ miles downstream from Claytor Dam.

Drainage area.--2,748 sq mi.

Records available.--October 1907 to September 1915, August 1939 to September 1960. Records for August 1898 to September 1907, published in WSP 27, 36, 48, 65, 83, 98, 128, 169, 205, 243 and 536, have been found to be unreliable and should not be used. Gage-height records collected at same site since 1895, but at different datum, are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 1,712.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1959. Prior to August 1939, chain gage at highway bridge 2,000 ft upstream at datum 0.85 ft lower.

Average discharge.--29 years (1907-15, 1939-60), 3,779 cfs (adjusted for storage).

Extremes.--1907-15, 1939-60: Maximum discharge, 218,000 cfs Aug. 14, 1940 (gage height, 35.96 ft), from rating curve extended above 73,000 cfs on basis of records for other stations on New River and flow over Claytor Dam (computed by Appalachian Power Co.); minimum, 165 cfs Aug. 25, 27, 1944 (gage height, 1.08 ft); minimum daily, 550 cfs Aug. 22, 1911.

Flood of July 16, 1916, reached a stage of 35.7 ft (discharge, 200,000 cfs), at site and datum used by Geological Survey 1907-15, from reports of U.S. Weather Bureau.

Remarks.--Flow regulated since 1939 by Claytor Reservoir (usable capacity, 100,000 acre-ft). Some additional regulation at low flow by dam and powerplant on Little River, half a mile above mouth. Records of chemical analyses, specific conductance, and water temperatures for the period October 1955 to September 1956 are published in report of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,538	2,217	6,201	3,369	4,463	5,392	7,900	3,745	3,170	2,300	2,133	1,528	3,741
1952	1,110	1,547	3,928	4,201	5,310	7,068	4,315	3,532	1,870	1,592	2,898	1,935	3,274
1953	1,496	2,339	2,737	4,156	5,545	6,153	3,892	3,787	2,787	2,478	1,468	1,231	3,330
1954	1,206	1,180	1,984	3,916	2,842	5,113	3,459	3,320	1,631	1,431	1,265	1,140	2,392
1955	1,384	1,390	2,864	2,456	4,766	9,477	6,092	2,749	2,473	2,568	2,534	1,630	3,359
1956	1,486	1,475	1,596	1,210	3,713	4,012	5,737	2,830	1,817	2,240	1,081	2,349	2,451
1957	2,983	3,349	3,109	4,541	10,450	5,381	10,130	3,170	4,344	2,318	1,636	4,368	4,591
1958	3,119	5,470	6,059	5,412	5,815	6,402	8,199	7,844	3,551	2,765	2,675	1,429	4,890
1959	1,478	1,462	3,135	4,030	2,509	2,733	5,971	2,582	2,230	2,118	1,494	3,456	2,763
1960	6,496	3,426	4,756	4,295	8,476	8,243	10,365	4,931	3,301	2,736	2,563	2,285	5,141

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.91	0.90	2.69	1.34	1.74	2.36	3.12	1.54	1.30	0.95	0.81	0.59	18.25
1952	.50	.80	1.61	1.74	2.09	2.95	1.83	1.44	.82	.68	1.14	.80	16.40
1953	.58	1.00	1.07	1.83	2.04	3.34	1.60	1.64	1.24	1.00	.62	.46	16.42
1954	.41	.45	.85	1.65	1.23	2.13	1.41	1.42	.77	.62	.51	.37	11.80
1955	.58	.68	1.18	.95	1.86	3.95	2.42	1.26	1.01	1.08	1.06	.62	16.65
1956	.59	.58	.56	.50	1.65	1.67	2.34	1.18	.73	.95	.47	.92	12.14
1957	1.22	1.37	1.28	1.99	3.76	2.33	4.07	1.44	1.75	1.02	.68	1.57	22.48
1958	1.36	2.24	2.59	2.25	2.27	2.64	3.28	3.36	1.48	1.14	1.10	.57	24.28
1959	.63	.60	1.36	1.58	.90	1.28	2.36	1.18	.92	.83	.69	1.38	13.71
1960	2.59	1.38	2.01	1.83	3.34	3.55	4.14	2.11	1.33	1.19	1.06	.86	25.39

a Adjusted for change in contents in Claytor Reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Observed			Adjusted a/			Observed		Adjusted a/	
		Momentary maximum		Minimum	Mean		Mean	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date	day			Per square mile				
1950	-	-	-	-	-	-	-	-	3,989	3,996	19.74
1951	1205	62,200	Dec. 8, 1950	1,180	3,741	3,698	1.35	18.25	3,372	3,377	16.66
1952	1235	28,100	Mar. 11, 1952	966	3,274	3,311	1.20	16.40	3,270	3,257	16.14
1953	1275	34,900	Feb. 21, 1953	1,010	3,330	3,325	1.21	16.42	3,146	3,132	15.46
1954	1335	48,000	Mar. 1, 1954	940	2,392	2,385	.868	11.80	2,499	2,534	12.55
1955	1385	32,100	Apr. 15, 1955	958	3,359	3,373	1.23	16.65	3,267	3,230	15.94
1956	1435	33,300	Apr. 16, 1956	824	2,451	2,452	.892	12.14	2,860	2,887	14.28
1957	1505	54,400	Apr. 6, 1957	825	4,591	4,556	1.66	22.48	5,027	5,025	24.80
1958	1555	19,700	May 8, 1958	828	4,890	4,918	1.79	24.28	4,173	4,186	20.68
1959	1625	40,300	Dec. 29, 1958	825	2,763	2,774	1.01	13.71	3,488	3,462	17.10
1960	1705	71,000	Oct. 1, 1959	1,110	5,141	5,124	1.86	25.39	-	-	-

a Adjusted for change in contents in Claytor Reservoir.

1715. New River at Eggleston, Va.

Location.--Lat 37°17'22", long 80°37'01", on left bank 50 ft downstream from highway bridge at Eggleston, Giles County, 1.9 miles (revised) downstream from Spruce Run, and 7.8 miles upstream from Walker Creek.

Drainage area.--2,941 sq mi.

Records available.--October 1914 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,615.59 ft above mean sea level, datum of 1929. Prior to July 2, 1926, chain gage at same site and datum.

Average discharge.--46 years (1914-60), 3,911 cfs, adjusted (revised).

Extremes.--1914-60: Maximum discharge, 219,000 cfs Aug. 14, 1940 (gage height, 41.16 ft), from rating curve extended above 49,000 cfs on basis of flood records for other stations on New River; minimum, 536 cfs Oct. 13, 1941 (gage height, 2.29 ft); minimum daily, 635 cfs July 20, 21, Sept. 28, 1926.
Flood in 1878 reached a stage of about 40 ft (discharge, about 209,000 cfs).

Remarks.--Flow regulated since 1939 by Claytor Reservoir (usable capacity, 100,000 acre-ft), 30 miles above station. Records of chemical analyses, specific conductance, and water temperatures for the period October 1952 to September 1955 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,617	2,318	6,473	3,599	4,715	5,662	8,472	3,877	3,304	2,306	2,148	1,547	3,896
1952	1,149	1,602	4,053	4,828	5,092	7,529	4,398	3,599	1,891	1,562	2,864	2,012	3,382
1953	1,468	2,352	2,685	4,455	6,344	8,950	4,185	4,163	3,002	2,581	1,457	1,201	3,557
1954	1,235	1,251	2,120	4,206	3,014	5,520	3,720	3,570	1,913	1,470	1,274	1,126	2,537
1955	1,469	1,463	3,007	2,649	5,171	10,649	6,545	2,912	2,633	2,572	2,565	1,573	3,594
1956	1,471	1,468	1,637	1,238	4,187	4,304	6,118	3,058	1,854	2,223	1,031	2,289	2,559
1957	3,163	3,823	3,209	4,695	11,580	5,940	11,070	3,395	4,625	2,445	1,824	4,715	4,949
1958	3,522	6,138	6,704	6,083	6,399	7,140	9,217	8,689	3,900	3,042	2,895	1,519	5,432
1959	1,584	1,602	3,226	4,553	2,771	2,960	6,582	2,853	2,279	2,094	1,475	3,281	2,934
1960	7,166	3,597	5,149	4,642	9,002	8,654	11,199	5,055	3,459	2,746	2,515	2,256	5,437

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.88	0.88	2.62	1.27	1.71	2.31	3.14	1.49	1.27	0.89	0.76	0.56	17.78
1952	.48	.77	1.56	1.87	1.88	2.94	1.74	1.37	.77	.82	1.05	.78	15.83
1953	.53	.94	.98	1.83	2.19	3.44	1.61	1.67	1.24	.97	.57	.42	16.39
1954	.40	.45	.83	1.65	1.21	2.16	1.42	1.42	.75	.59	.48	.34	11.70
1955	.57	.66	1.16	.96	1.88	4.16	2.43	1.23	1.00	1.01	1.01	.56	16.63
1956	.54	.54	.54	.48	1.72	1.67	2.34	1.19	.69	.88	.42	.84	11.85
1957	1.22	1.35	1.23	2.01	3.90	2.40	4.16	1.43	1.75	1.00	.63	1.61	22.69
1958	1.43	2.35	2.68	2.36	2.33	2.76	3.45	3.47	1.52	1.18	1.11	.57	25.21
1959	.63	.61	1.30	1.69	.93	1.29	2.44	1.20	.88	.77	.64	1.23	13.60
1960	2.69	1.36	2.03	1.86	3.32	3.47	4.18	2.02	1.30	1.11	.97	.79	25.10

a Adjusted for change in contents in Claytor Reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted a/			Observed	Adjusted a/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	4,240	4,247	19.61
1951	1205	61,800	Dec. 8, 1950	1,230	3,896	3,853	1.31	17.78	3,507	3,512	16.21
1952	1235	27,500	Mar. 12, 1952	950	3,382	3,419	1.16	15.83	3,355	3,342	15.47
1953	1275	35,000	Feb. 22, 1953	1,080	3,557	3,552	1.21	16.39	3,399	3,385	15.62
1954	1335	43,800	Mar. 1, 1954	1,020	2,537	2,530	.860	11.70	2,649	2,684	12.41
1955	1385	31,100	Apr. 15, 1955	1,030	3,594	3,608	1.23	16.63	3,478	3,441	15.86
1956	1435	33,200	Apr. 16, 1956	696	2,559	2,560	.870	11.85	3,004	3,031	14.03
1957	1505	55,200	Apr. 6, 1957	851	4,949	4,914	1.67	22.69	5,492	5,490	25.35
1958	1555	20,600	May 8, 1958	880	5,432	5,460	1.86	25.21	4,599	4,612	21.29
1959	1625	36,600	Dec. 29, 1958	820	2,934	2,945	1.00	13.60	3,736	3,710	17.14
1960	1705	70,600	Oct. 1, 1959	1,150	5,437	5,420	1.84	25.10	-	-	-

a Adjusted for change in contents in Claytor Reservoir.

KANAWHA RIVER BASIN

1730. Walker Creek at Bane, Va.

Location.--Lat 37°16'05", long 80°42'35", on left bank 0.2 mile downstream from bridge on State Highway 100 at Bane, Giles County, 0.2 mile downstream from Sugar Run, and 7.9 miles upstream from mouth.

Drainage area.--305 sq mi.

Records available.--March 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,665.92 ft above mean sea level, datum of 1929. Mar. 31 to Aug. 1, 1938, staff gage at same site and datum.

Average discharge.--22 years (1938-60), 320 cfs.

Extremes.--1938-60: Maximum discharge, 16,500 cfs Jan. 30, 1957 (gage height, 16.50 ft), from rating curve extended above 7,200 cfs on basis of slope-area measurement of peak flow; minimum, 15 cfs Dec. 21, 1956 (gage height, 2.42 ft), result of freezeup; minimum daily, 25 cfs Dec. 1, 1955.

Maximum stage known, about 23.5 ft in September 1878.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	92.7	105	645	211	437	726	828	270	213	116	79.7	63.1	315
1952	46.1	81.5	263	587	411	852	446	307	86.9	56.6	101	51.5	275
1953	42.3	92.4	169	412	786	884	362	610	276	202	58.5	46.2	326
1954	43.0	44.0	87.4	374	303	699	433	440	114	106	73.4	44.7	230
1955	65.8	77.6	295	208	803	1,800	645	152	91.2	63.7	70.2	35.6	357
1956	38.0	43.2	44.9	44.8	510	458	821	365	123	248	83.6	86.3	237
1957	233	337	279	971	1,577	827	885	166	227	81.8	56.4	171	459
1958	180	450	593	438	653	1,010	1,119	1,017	170	98.4	193	53.5	497
1959	53.2	58.7	166	268	182	399	931	196	152	62.0	89.5	74.4	219
1960	329	318	466	378	873	940	828	312	182	99.7	57.5	47.0	401

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.35	0.38	2.43	0.80	1.49	2.74	3.02	1.02	0.78	0.44	0.30	0.23	13.98
1952	.17	.30	.99	2.21	1.46	3.22	1.65	1.16	.32	.21	.38	.19	12.24
1953	.18	.34	.64	1.56	2.69	3.34	1.33	2.31	1.01	.76	.22	.17	14.53
1954	.16	.16	.33	1.42	1.03	2.64	1.58	1.66	.42	.40	.28	.16	10.24
1955	.25	.28	1.11	.79	2.74	6.80	2.35	.57	.33	.24	.27	.13	15.86
1956	.14	.16	.17	.17	1.80	1.73	3.00	1.38	.45	.94	.32	.32	10.58
1957	.88	1.23	1.05	3.67	5.38	2.38	3.24	.63	.83	.31	.21	.63	20.44
1958	.68	1.65	2.24	1.66	2.23	3.82	4.10	3.84	.62	.37	.73	.20	22.14
1959	.20	.21	.63	1.01	.62	1.51	3.41	.74	.56	.23	.34	.27	9.73
1960	1.24	1.16	1.76	1.43	3.09	3.55	3.03	1.18	.67	.38	.22	.17	17.98

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	352	15.68
1951	1205	9,150	Dec. 8, 1950	49	315	1.03	13.98	276	12.28
1952	1235	3,490	Apr. 28, 1952	37	275	.902	12.24	267	11.92
1953	1275	8,150	Feb. 21, 1953	35	326	1.07	14.53	315	14.04
1954	1335	5,670	Mar. 1, 1954	33	230	.754	10.24	253	11.25
1955	1385	10,200	Apr. 14, 1955	29	357	1.17	15.86	330	14.69
1956	1435	5,840	Apr. 16, 1956	25	237	.777	10.58	297	13.27
1957	1505	16,500	Jan. 30, 1957	37	459	1.50	20.44	491	21.85
1958	1555	6,510	Mar. 31, 1958	46	497	1.63	22.14	418	18.61
1959	1625	6,530	Apr. 13, 1959	32	219	.718	9.73	289	12.85
1960	1705	5,020	Feb. 11, 1960	38	401	1.31	17.98	-	-

1755. Wolf Creek near Narrows, Va.

Location.--Lat 37°18'20", long 80°51'00", on right bank at downstream side of bridge on State Highway 61, 2.8 miles southwest of Narrows, Giles County, and 3.5 miles upstream from mouth.

Drainage area.--223 sq mi.

Records available.--July 1908 to September 1916, March 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,583.83 ft above mean sea level, datum of 1929. July 12, 1908, to Sept. 30, 1916, and Mar. 31 to Nov. 7, 1938, staff gage at same site and datum.

Average discharge.--30 years (1908-16, 1938-60), 289 cfs (revised).

Extremes.--1908-16, 1938-60: Maximum discharge, 12,900 cfs Jan. 29, 1957 (gage height, 12.55 ft in gage well and 13.8 ft from floodmarks, at downstream side of bridge), from rating curve extended above 5,700 cfs on basis of contracted-opening measurement of peak flow; minimum, 8.8 cfs Dec. 25, 1953 (gage height, 2.28 ft), result of freezeup; minimum daily, 17 cfs Jan. 2, 1940.

Revisions.--The momentary maximum discharges for the water years 1913, 1915, and 1916 were revised in WSP 1435; the resulting revised records as summarized herewith supersede those published in WSP 1305:

Momentary maximum (cfs)	Date
8,820	Mar. 27, 1913
6,800	Jan. 7, 1915
11,000	July 16, 1916

Corrections.--In WSP 1305, some figures are in error; they should be as follows:

March 1940, runoff in inches.....	1.63
Calendar year 1940, mean, in cubic feet per second	234
Calendar year 1940, runoff in inches.....	14.28
Calendar year 1941, mean, in cubic feet per second	152
Calendar year 1941, runoff in inches.....	9.23

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	58.0	72.1	572	215	443	663	621	248	240	151	168	106	296
1952	43.4	115	358	718	415	814	436	369	91.9	46.6	48.0	35.0	291
1953	26.7	65.9	153	377	714	743	319	712	254	341	51.4	31.4	313
1954	25.7	29.4	64.1	347	183	535	371	364	91.1	149	78.5	50.6	191
1955	92.6	123	378	267	678	1,789	550	187	78.2	55.7	47.2	28.3	371
1956	29.2	42.6	43.4	60.8	659	536	875	385	146	202	71.3	65.9	257
1957	123	236	342	1,128	1,469	468	657	132	213	73.3	47.0	131	412
1958	157	390	632	375	570	815	843	802	116	83.4	212	46.6	420
1959	43.1	58.9	163	322	221	428	858	242	109	33.7	43.6	43.2	213
1960	193	259	382	354	533	784	643	225	134	104	51.1	32.9	305

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.30	0.36	2.96	1.11	2.07	3.42	3.10	1.28	1.20	0.78	0.87	0.53	17.98
1952	.22	.58	1.86	3.71	2.01	4.21	2.19	1.90	1.46	.24	.25	.18	17.81
1953	.14	.33	.79	1.95	3.33	3.84	1.60	3.68	1.27	1.76	.27	.16	19.12
1954	.13	.15	.33	1.80	.85	2.76	1.65	1.88	.46	.77	.40	.25	11.63
1955	.48	.62	1.96	1.38	4.10	9.25	2.76	.97	.39	.29	.24	.14	22.58
1956	.15	.21	.22	.31	3.19	2.77	4.36	1.99	.74	1.04	.37	.33	15.68
1957	.64	1.18	1.76	5.83	6.86	2.52	3.29	.68	1.07	.38	.24	.65	25.10
1958	.81	1.95	3.26	1.94	2.67	4.21	4.22	4.15	.58	.43	1.10	.23	25.55
1959	.22	.29	.84	1.67	1.03	2.21	4.29	1.25	.54	.17	.23	.22	12.96
1960	1.00	1.30	1.98	1.73	2.58	4.05	3.22	1.16	.67	.54	.28	.16	18.65

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	7,200	Dec. 7, 1950	52	296	1.33	17.98	321	19.55
1952	1235	5,500	Mar. 11, 1952	22	291	1.30	17.81	280	17.02
1953	1275	6,010	Feb. 21, 1953	21	313	1.40	19.12	269	16.41
1954	1435	3,110	Jan. 22, 1954	21	191	.857	11.63	231	14.08
1955	1435	7,670	Mar. 6, 1955	23	371	1.66	22.58	330	20.10
1956	1435	6,350	Apr. 16, 1956	26	257	1.15	15.68	306	18.68
1957	1505	12,900	Jan. 29, 1957	30	412	1.85	25.10	453	27.54
1958	1555	6,670	Mar. 31, 1958	37	420	1.88	25.55	343	20.88
1959	1625	4,500	Apr. 13, 1959	25	213	.955	12.96	261	15.89
1960	1705	5,540	Mar. 31, 1960	27	305	1.37	18.65	-	-

1765. New River at Glenlyn, Va.

Location.--Lat 37°22'20", long 80°51'45", on right bank at upstream side of bridge on U.S. Highway 460 at Glenlyn, Giles County, 0.3 mile upstream from East River and 6.3 miles downstream from Wolf Creek.

Drainage area.--3,768 sq mi.

Records available.--August 1927 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,489.76 ft above mean sea level, datum of 1929. Aug. 11, 1927, to Oct. 16, 1934, on left bank just upstream from highway bridge at same datum. Oct. 16, 1934, to June 16, 1939, on left bank 200 ft upstream from highway bridge at same datum.

Average discharge.--33 years (1927-60), 4,976 cfs (adjusted).

Extremes.--1927-60: Maximum discharge, 226,000 cfs Aug. 14, 1940 (gage height, 27.50 ft), from rating curve extended above 65,000 cfs on basis of slope-area measurement of peak flow; minimum, 770 cfs Sept. 8, 1930 (gage height, 2.10 ft); minimum daily, 820 cfs Sept. 8, 1930.

Remarks.--Flow regulated since 1939 by Claytor Reservoir (usable capacity, 100,000 acre-ft), 55 miles above station. Records of chemical analyses for the periods October 1951 to September 1952 and October 1954 to September 1955, and water temperatures for the periods October 1953 to September 1957 and October 1958 to September 1959 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,055	2,915	8,382	4,196	6,312	7,882	10,820	5,001	4,411	2,933	2,695	2,016	5,041
1952	1,520	2,194	4,995	6,305	6,891	9,990	5,974	5,035	2,391	1,914	3,176	2,287	4,389
1953	1,722	2,693	3,356	5,665	8,273	11,180	5,508	6,093	3,914	3,331	1,834	1,513	4,573
1954	1,536	1,607	2,494	5,185	3,692	7,558	5,209	5,075	2,531	2,025	1,734	1,457	3,361
1955	1,832	1,843	4,008	3,698	7,478	16,127	8,332	3,607	3,114	3,034	3,214	1,930	4,841
1956	1,785	1,818	1,986	1,594	5,954	5,730	8,766	4,331	2,406	2,845	1,436	2,686	3,426
1957	3,582	4,856	4,122	7,815	15,610	7,618	13,650	3,729	4,992	2,585	1,821	4,757	6,173
1958	4,166	7,156	8,022	7,008	7,896	9,563	11,790	11,210	4,460	3,565	3,395	1,858	6,668
1959	1,962	2,038	4,012	5,401	3,649	4,132	8,764	3,790	2,972	2,270	1,683	3,712	3,692
1960	8,588	4,543	6,389	5,771	10,742	11,074	13,098	5,746	3,921	3,129	2,814	2,587	6,516

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.82	0.87	2.63	1.23	1.78	2.48	3.15	1.51	1.32	0.89	0.76	0.58	18.02
1952	.49	.78	1.51	1.91	1.97	3.04	1.83	1.51	.75	.59	.92	.69	15.99
1953	.49	.85	.97	1.80	2.24	5.37	1.65	1.90	1.24	.99	.56	.42	16.46
1954	.40	.45	.76	1.59	1.19	2.31	1.54	1.57	.77	.63	.52	.36	12.09
1955	.56	.63	1.21	1.07	2.10	4.92	2.43	1.18	.92	.93	.98	.54	17.47
1956	.52	.52	.53	.48	1.84	1.74	2.61	1.31	.71	.88	.45	.77	12.36
1957	1.08	1.38	1.24	2.46	4.22	2.39	4.02	1.22	1.47	.82	.55	1.26	22.11
1958	1.31	2.14	2.49	2.13	2.23	2.89	3.45	3.48	1.35	1.08	1.02	.55	24.12
1959	.61	.61	1.26	1.57	.97	1.36	2.56	1.22	.89	.65	.56	1.09	13.35
1960	2.54	1.34	1.96	1.79	3.08	3.45	3.83	1.79	1.15	.98	.85	.71	23.47

a Adjusted for change in contents of Claytor Reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted a/			Observed		Adjusted a/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	5,398	5,405	19.46
1951	1205	79,000	Dec. 8, 1950	1,620	5,041	4,998	1.33	18.02	4,564	4,569	16.48
1952	1235	35,400	Mar. 12, 1952	1,340	4,389	4,426	1.17	15.99	4,308	4,295	15.50
1953	1275	47,100	Feb. 22, 1953	1,250	4,573	4,568	1.21	16.46	4,394	4,380	15.78
1954	1355	51,500	Mar. 1, 1954	1,320	3,361	3,354	.890	12.09	3,535	3,570	12.88
1955	1385	36,900	Mar. 7, Apr. 15	1,340	4,841	4,855	1.29	17.47	4,663	4,626	16.64
1956	1435	44,700	Apr. 17, 1956	1,090	3,426	3,427	.910	12.36	3,992	4,019	14.49
1957	1505	66,700	Apr. 6, 1957	1,100	6,173	6,138	1.63	22.11	6,759	6,757	24.35
1958	1555	35,300	Mar. 31, 1958	1,100	6,668	6,696	1.78	24.12	5,719	5,732	20.66
1959	1625	52,000	Dec. 29, 1958	1,140	3,692	3,703	.983	13.35	4,662	4,636	16.71
1960	1705	66,000	Mar. 31, 1960	1,320	6,516	6,499	1.72	23.47	-	-	-

a Adjusted for change in contents of Claytor Reservoir.

1780. Bluestone River near Spanishburg, W. Va.

Location.--Lat 37°26'00", long 81°06'40", near center of span on downstream side of bridge on U.S. Highways 19 and 21, 1.1 miles southeast of Spanishburg, Mercer County, and 1.4 miles upstream from Rich Creek.

Drainage area.--199 sq mi.

Records available.--September 1944 to September 1952.

Gage.--Wire-weight and crest-stage gages. Datum of gage is 2,051.13 ft above mean sea level, adjustment of 1912.

Average discharge.--8 years (1944-52), 218 cfs.

Extremes.--1944-52: Maximum discharge, 6,920 cfs Jan. 8, 1946 (gage height, 18.36 ft); minimum observed, 3.1 cfs Jan. 7, 1948 (gage height, 1.45 ft), result of freezeup. Flood of Jan. 29, 1957, reached a stage of 19.6 ft (discharge, about 7,900 cfs), highest since at least 1908 at station downstream near Pipestem.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	35.6	46.9	450	145	441	491	449	242	223	86.8	98.6	73.0	230
1952	24.5	87.2	250	568	316	509	315	362	76.3	37.0	42.4	26.3	218

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.21	0.26	2.61	0.84	2.31	2.85	2.52	1.40	1.25	0.50	0.57	0.41	15.73
1952	.14	.49	1.45	3.29	1.71	2.95	1.77	2.10	.43	.21	.25	.15	14.94

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	263	17.93
1951	1205	3,410	Dec. 8, 1950	24	230	1.16	15.73	216	14.73
1952	1235	3,710	Jan. 23, 1952	12	218	1.10	14.94	-	-

1785. Camp Creek near Camp Creek, W. Va.

Location.--Lat 37°30'15", long 81°07'40", on left bank 1,500 ft downstream from Mash Fork and 2.1 miles upstream from Camp Creek, Mercer County.

Drainage area.--32.0 sq mi.

Records available.--August 1946 to September 1960.

Gage.--Water-stage recorder; concrete control since 1955. Altitude of gage is 2,050 ft, (from topographic map).

Average discharge.--14 years (1946-60), 45.5 cfs.

Extremes.--1946-60: Maximum discharge, 3,410 cfs Jan. 29, 1957 (gage height, 6.35 ft); no flow at times during 1952-56, 1959.

Revisions.--Some high-water periods for the water year 1948 and the momentary maximum discharges for the water years 1948 and 1950 were revised in WSP 1435; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches	Momentary maximum		Minimum day
				Discharge	Date	
February 1948.....	143	4.47	4.83	-	-	-
Water year 1947-48..	39.4	1.23	16.75	2,720	Feb. 14, 1948	0.11
Calendar year 1948..	49.2	-	20.93	-	-	-
Water year 1949-50..	62.9	1.97	26.69	1,640	July 26, 1950	2.0

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.95	9.53	76.1	33.0	101	108	99.1	47.1	24.1	7.14	1.47	3.54	42.6
1952	† 5.0	10.7	53.8	121	57.7	102	81.5	102	6.66	.598	1.67	.468	45.1
1953	† 3.2	3.21	12.8	61.8	97.5	93.4	57.7	76.9	27.5	3.02	† 6.7	.070	† 35.9
1954	.043	.373	6.75	59.9	30.1	76.1	56.0	96.4	8.45	4.05	7.17	2.57	29.1
1955	10.3	21.4	89.7	47.1	212	253	50.6	28.0	3.62	† 5.2	† 4.7	0	58.9
1956	.028	.697	3.06	8.95	144	107	131	70.5	27.2	48.2	4.85	5.74	45.6
1957	6.00	20.9	58.8	185	180	61.2	99.8	27.3	33.2	9.65	5.27	12.8	57.5
1958	18.7	47.2	119	48.0	114	149	141	123	17.0	24.8	39.2	4.00	70.3
1959	1.72	5.17	25.7	44.3	44.8	60.3	116	22.9	15.1	2.53	6.12	1.02	28.6
1960	12.2	47.2	67.4	61.5	56.3	128	67.8	38.6	23.4	15.9	3.07	2.90	43.7

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.18	0.33	2.74	1.19	3.30	3.89	3.46	1.70	0.94	0.26	0.05	0.12	18.06
1952	.02	.37	1.94	4.37	1.95	3.68	2.84	3.66	.23	.02	.06	.02	19.16
1953	.01	.11	.46	2.23	3.17	3.36	2.01	2.77	.96	.11	.02	.002	15.21
1954	.002	.01	.24	2.16	.98	2.74	1.95	3.47	.29	.15	.26	.09	12.34
1955	.37	.74	3.23	1.70	6.89	9.11	1.76	1.01	.13	.02	.02	0	24.98
1956	.001	.03	.11	.32	4.87	3.87	4.58	2.54	.95	1.74	.17	.20	19.38
1957	.22	.73	2.12	6.65	5.86	2.21	3.48	.99	1.16	.36	.19	.45	24.42
1958	.67	1.65	4.30	1.73	3.72	5.36	4.92	4.45	.59	.90	1.41	.14	29.84
1959	.06	.18	.92	1.60	1.46	2.17	4.04	.83	.53	.09	.22	.04	12.14
1960	.44	1.64	2.43	2.21	1.90	4.62	2.36	1.39	.82	.57	.11	.10	18.59

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	56.2	23.83
1951	1205	1,100	Dec. 4, 1950	0.07	42.6	1.33	18.06	40.4	17.14
1952	1235	1,120	May 10, 1952	0	45.1	1.41	19.16	41.0	17.41
1953	1275	1,100	Feb. 21, 1953	0	† 35.9	1.12	15.21	35.1	15.00
1954	1335	† 1,000	Jan. 16, 1954	.01	29.1	.909	12.34	38.8	16.43
1955	1385, 1435	2,660	Feb. 28, 1955	0	58.9	1.84	24.98	49.0	20.78
1956	1435	1,400	July 27, 1956	0	45.6	1.42	19.38	52.4	22.31
1957	1505	3,410	Jan. 29, 1957	.2	57.5	1.80	24.42	65.9	27.97
1958	1555	1,590	Mar. 31, 1958	1.5	70.3	2.20	29.84	57.5	24.38
1959	1625	865	Apr. 12, 1959	.1	28.6	.894	12.14	36.5	15.49
1960	1705	1,030	Mar. 30, 1960	.2	43.7	1.37	18.59	-	-

† Corrected.

* Not previously published; estimated.

1790. Bluestone River near Pipestem, W. Va.

Location.--Lat 37°32'45", long 81°00'30", on left bank 1.2 miles downstream from Mountain Creek, 2.5 miles west of Pipestem, Summers County, and 8 miles upstream from mouth.

Drainage area.--363 sq mi.

Records available.--July 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,527.35 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Average discharge.--10 years (1950-60), 461 cfs.

Extremes.--1950-60: Maximum discharge, 16,100 cfs Jan. 29, 1957 (gage height, 14.49 ft); minimum, 7.0 cfs Sept. 21-23, 30, 1955 (gage height, 1.60 ft).
Maximum stage known since at least 1908, that of Jan. 29, 1957.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	160	168	-
1951	65.5	95.2	829	264	860	1,044	917	471	394	138	111	99.3	438
1952	28.5	134	449	1,127	626	1,042	670	747	103	40.6	59.5	30.7	423
1953	20.4	80.6	189	565	967	990	533	1,045	437	212	44.0	20.5	423
1954	16.7	20.0	63.5	587	225	789	581	778	138	258	135	62.6	306
1955	170	175	640	461	1,718	3,276	599	240	87.0	68.7	46.3	13.9	620
1956	17.9	47.3	47.6	104	1,415	1,093	1,433	575	196	306	68.5	129	447
1957	126	272	504	2,107	2,148	656	854	163	228	79.2	39.6	116	596
1958	137	321	928	433	1,012	1,474	1,414	1,282	143	184	352	67.0	644
1959	40.3	63.8	233	482	422	581	1,204	335	117	42.5	59.1	28.0	299
1960	155	343	587	553	667	1,178	775	287	201	150	65.1	36.8	416

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	0.51	0.52	-
1951	0.21	0.29	2.63	0.84	2.47	3.32	2.82	1.50	1.21	0.44	.35	.31	16.39
1952	.09	.41	1.43	3.58	1.86	3.31	2.06	2.37	.32	.13	.19	.09	15.84
1953	.07	.25	.60	1.80	2.77	3.14	1.64	3.32	1.34	.67	.14	.06	15.80
1954	.05	.06	.20	1.86	.65	2.51	1.79	2.47	.42	.82	.43	.19	11.45
1955	.54	.54	2.03	1.46	4.93	10.40	1.64	.76	.27	.22	.15	.04	23.18
1956	.06	.15	.15	.33	4.20	3.47	4.41	1.83	.60	.97	.22	.40	16.79
1957	.40	.84	1.60	6.69	6.16	2.08	2.56	.52	.70	.25	.13	.36	22.29
1958	.44	.99	2.95	1.38	2.90	4.68	4.34	4.07	.44	.59	1.12	.21	24.11
1959	.13	.20	.74	1.53	1.21	1.85	3.70	1.06	.36	.14	.19	.09	11.20
1960	.49	1.05	1.86	1.76	1.98	3.74	2.38	.91	.62	.46	.21	.11	15.59

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	-	-
1951	1205	5,020	Dec. 4, 1950	28	438	1.21	16.39	406	15.19
1952	1235	5,820	Jan. 22, 1952	15	423	1.17	15.84	395	14.83
1953	1275	7,080	May 20, 1953	15	423	1.16	15.80	407	15.19
1954	1355	4,600	Jan. 22, 1954	12	306	.843	11.45	361	14.25
1955	1385	14,900	Feb. 28, 1955	7.0	620	1.71	23.18	546	20.43
1956	1435	7,840	Apr. 16, 1956	9.5	447	1.23	16.79	514	19.27
1957	1505	16,100	Jan. 29, 1957	12	596	1.64	22.29	637	19.27
1958	1555	9,020	Mar. 31, 1958	39	644	1.77	24.11	556	20.80
1959	1625, 1705	5,900	Apr. 12, 1959	11	299	.824	11.20	362	13.53
1960	1705	5,420	Mar. 31, 1960	19	416	1.15	15.59	-	-

1798. Bluestone Reservoir near Hinton, W. Va.

Location.--Lat 37°38'25", long 80°53'15", at Bluestone Dam on New River near Hinton, 1 mile upstream from Greenbrier River and $2\frac{1}{4}$ miles upstream from Hinton.

Drainage area.--4,603 sq mi.

Records available.--July 1949 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Remarks.--Reservoir is formed by concrete gravity dam equipped with 16 sluice gates 10 ft high and $5\frac{3}{4}$ ft wide. Storage began in July 1949. Reservoir is used for flood control. Total capacity (elevation, 1,520 ft) 631,000 acre-ft, of which 10,000 acre-ft is dead storage. Spillway elevation is 1,490 ft. Summer recreation pool elevation is 1,407 ft. Records given herein represent usable contents.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1949	-	-	-	-	-	-	-	-	-	6,444	32,970	11,282
1950	11,058	8,595	7,698	25,100	5,866	10,750	12,265	16,990	16,650	10,218	16,446	13,758
1951	14,933	35,610	24,953	21,716	20,236	33,630	20,807	17,796	18,570	25,524	26,508	22,104
1952	18,534	23,862	27,505	132,628	26,822	23,196	47,450	27,248	27,875	27,543	25,304	26,986
1953	27,894	27,592	28,065	27,690	24,194	22,582	14,518	14,732	14,933	26,490	26,414	26,914
1954	27,502	22,638	13,596	28,606	28,682	29,442	25,968	23,602	23,214	28,494	28,404	22,752
1955	27,762	27,726	27,135	26,986	55,959	20,883	28,530	28,350	22,790	28,701	28,027	28,160
1956	23,304	25,154	27,059	25,674	25,380	28,255	27,320	27,636	22,528	26,689	27,543	25,506
1957	9,406	18,966	22,600	267,224	22,492	23,397	24,270	24,602	24,378	24,324	23,862	25,840
1958	26,025	22,880	23,378	23,160	28,720	66,189	20,678	27,173	26,490	28,530	26,210	24,766
1959	26,490	25,082	25,470	21,716	20,290	22,546	25,750	26,878	26,192	26,708	25,398	24,156
1960	26,580	26,246	26,246	20,750	22,104	164,735	26,025	26,746	25,768	26,300	26,860	25,768

1800. New River at Bluestone Dam, W. Va.

Location.--Lat 37°38'35", long 80°53'00", on right bank a quarter of a mile downstream from Bluestone Dam, Summers County, 0.7 mile upstream from Greenbrier River, and 2 miles upstream from Hinton, Summers County.

Drainage area.--4,604 sq mi.

Records available.--October 1923 to September 1960. Published as "near Hinton" 1923-46. Monthly discharge only for October, November 1923, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,360.00 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Dec. 1, 1923, to Nov. 19, 1934, staff gage and Nov. 20, 1934, to July 1, 1947, water-stage recorder, at site 1.3 miles upstream at datum 8.49 ft higher. Auxiliary water-stage recorder 0.7 mile downstream from present base gage.

Average discharge.--37 years (1923-60), 5,584 cfs (adjusted for storage).

Extremes.--1923-60. Maximum discharge, 232,000 cfs Aug. 15, 1940 (gage height, 25.7 ft, revised from floodmarks, present site and datum), by slope-area measurement of peak flow; minimum, 10 cfs (estimated during construction of Bluestone Dam) Aug. 30, 1948; minimum daily, 178 cfs Jan. 29, 1952.
Floods of Apr. 21 and May 23, 1901, reached a stage of 24.2 ft, former site and datum (discharge, 234,000 cfs, corrected). Flood in 1878 probably reached a higher stage.

Remarks.--Flow regulated since 1939 by Claytor Reservoir and since 1949 by Bluestone Reservoir (combined usable capacity, 721,000 acre-ft). Records of water temperatures for the period May 1953 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,182	2,619	9,647	4,540	7,690	9,300	12,290	5,709	5,032	3,055	2,804	2,269	5,720
1952	1,601	2,185	5,379	6,435	9,507	11,720	6,581	6,328	2,377	1,893	3,341	2,362	4,968
1953	1,726	2,824	3,676	6,444	10,250	12,560	6,450	7,708	4,427	3,309	1,764	1,405	5,186
1954	1,467	1,543	2,607	5,989	4,116	8,357	5,873	1,102	2,466	2,090	1,758	1,562	3,708
1955	1,946	1,959	4,999	4,290	9,663	22,427	8,571	3,832	3,283	2,805	2,624	1,788	5,701
1956	1,769	1,764	1,914	1,641	8,220	7,658	10,950	5,236	2,757	3,400	1,454	2,771	7,104
1957	4,136	5,011	4,883	7,255	23,440	8,465	14,650	3,939	5,330	2,647	1,863	4,924	4,076
1958	4,246	7,718	10,260	8,368	9,878	12,310	15,930	14,170	4,723	3,717	4,119	1,825	8,097
1959	1,749	1,938	3,940	6,221	4,029	4,907	11,490	4,166	2,911	2,299	1,857	3,274	4,056
1960	8,662	4,947	7,310	6,607	12,310	11,010	18,060	6,535	4,165	3,259	2,780	2,432	7,512

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.71	0.72	2.42	1.08	1.76	2.44	3.05	1.40	1.24	0.74	0.65	0.52	16.72
1952	.40	.66	1.35	2.03	1.80	2.90	1.74	1.48	.61	.48	.78	.59	14.82
1953	.43	.68	.92	1.61	2.32	3.14	1.56	1.93	1.07	.83	.44	.34	15.27
1954	.31	.34	.62	1.53	1.02	2.24	1.41	1.53	.61	.55	.43	.30	10.89
1955	.50	.54	1.23	1.03	2.38	5.46	2.08	1.02	.77	.73	.70	.41	16.85
1956	.40	.42	.42	.40	2.04	1.92	2.66	1.30	.64	.88	.38	.64	12.10
1957	.96	1.26	1.22	2.66	4.19	2.17	3.54	1.05	1.28	.69	.46	1.08	20.76
1958	1.10	1.87	2.59	2.09	2.30	3.65	3.62	1.17	.93	1.01	.43	.23.96	23.96
1959	.45	.47	1.01	1.48	.87	1.31	2.77	1.10	.71	.54	.50	.78	11.99
1960	2.10	1.19	1.83	1.65	2.90	3.39	3.77	1.66	1.00	.84	.69	.54	21.56

a Adjusted for change in contents in Claytor and Bluestone Reservoirs.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year					
		Observed			Adjusted a/			Observed			Adjusted a/		
		Momentary maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date	day									
1950	1205	-	-	-	-	-	-	6,180	6,211	18.32	-	-	-
1951	1205	38,300	Dec. 9, 1950	1,280	5,720	5,688	1.24	16.72	5,188	5,196	15.29	-	-
1952	1235	34,200	Feb. 2, 1952	178	4,968	5,012	1.09	14.82	4,887	4,873	14.44	-	-
1953	1275	36,700	Feb. 25, 1953	353	5,186	5,181	1.13	15.27	4,968	4,934	14.51	-	-
1954	1335	31,600	Mar. 2, 1954	1,070	3,708	3,695	.802	10.89	3,986	4,040	11.89	-	-
1955	1385	53,200	Mar. 12, 1955	250	5,701	5,722	1.24	16.85	5,408	5,370	15.82	-	-
1956	1435	34,200	Apr. 17, 1956	833	4,104	4,101	.891	12.10	4,822	4,843	14.30	-	-
1957	1505	53,800	Feb. 3, 1957	532	7,076	7,041	1.53	20.76	7,764	7,765	22.88	-	-
1958	1555	44,800	May 12, 1958	712	8,097	8,124	1.76	23.96	8,873	8,889	20.33	-	-
1959	1625	35,000	Jan. 27, 1959	365	4,056	4,066	.883	11.99	5,177	5,152	15.18	-	-
1960	1705	64,900	Apr. 7, 1960	330	7,312	7,297	1.58	21.56	-	-	-	-	-

a Adjusted for change in contents in Claytor and Bluestone Reservoirs.

1805. Greenbrier River at Durbin, W. Va.

Location.--Lat 38°32'35", long 79°50'00", on left bank at Durbin, Pocahontas County, 500 ft downstream from confluence of East and West Forks.

Drainage area.--134 sq mi.

Records available.--March 1943 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,699.71 ft above mean sea level, datum of 1929.

Average discharge.--17 years (1943-60), 248 cfs.

Extremes.--1943-60: Maximum discharge, 9,900 cfs Oct. 15, 1954 (gage height, 8.38 ft), from rating curve extended above 4,300 cfs by logarithmic plotting; maximum gage height, 9.20 ft Feb. 2, 1956 (ice jam); minimum discharge, 0.3 cfs Sept. 29, Oct. 3, 1953; minimum gage height, 0.39 ft Sept. 28, 29, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	165	271	456	471	634	423	475	282	313	77.9	23.6	22.3	299
1952	7.96	108	336	871	281	484	417	297	72.5	37.7	55.0	17.4	250
1953	9.74	22.5	158	496	493	443	396	347	148	36.2	8.85	1.82	212
1954	2.06	10.1	63.3	322	236	597	319	189	154	141	139	49.3	185
1955	394	217	396	230	656	876	142	195	98.0	40.4	88.3	16.0	278
1956	20.1	73.1	103	73.7	818	592	429	304	305	142	256	42.8	261
1957	45.0	107	302	572	552	234	475	113	165	63.2	6.99	7.69	218
1958	58.8	106	419	233	184	285	1,041	438	75.3	198	198	32.0	273
1959	21.4	62.9	90.1	351	234	330	529	267	174	24.1	30.9	15.1	177
1960	142	279	447	467	274	490	635	334	169	38.0	26.1	167	289

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.42	2.25	3.93	4.05	4.93	3.64	3.95	2.43	2.61	0.67	0.20	0.19	30.27
1952	.07	.90	2.89	7.50	2.26	4.16	3.48	2.56	.60	.32	.47	.15	25.36
1953	.08	.19	1.36	4.27	3.83	3.81	3.30	2.99	1.23	.31	.08	.02	21.47
1954	.02	.08	.54	2.77	1.83	5.13	2.65	1.62	1.28	1.22	1.20	.41	18.75
1955	3.39	1.81	3.41	1.98	5.09	7.54	1.18	1.68	.82	.35	.76	.13	28.14
1956	.17	.61	.89	.63	6.58	5.09	3.57	2.62	2.54	1.22	2.21	.36	26.49
1957	.39	.89	2.60	4.92	4.29	2.02	3.95	.97	1.38	.54	.06	.06	22.07
1958	.51	.88	3.60	2.00	1.43	2.45	8.67	3.77	.63	1.70	1.70	.27	27.61
1959	.18	.52	.78	3.02	1.82	2.84	4.41	2.30	1.45	.21	.27	.13	17.93
1960	1.22	2.32	3.84	4.02	2.20	4.22	5.29	2.88	1.40	.33	.22	1.39	29.33

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	307	31.12
1951	1205	4,360	Dec. 7, 1950	6.4	299	2.23	30.27	262	26.53
1952	1235	3,010	Jan. 27, 1952	5.5	250	1.87	25.36	228	23.13
1953	1275	4,600	Feb. 21, 1953	.5	212	1.58	21.47	202	20.48
1954	1335	3,640	Mar. 1, 1954	.5	185	1.38	18.75	264	26.72
1955	1385	9,900	Oct. 15, 1954	5.0	278	2.07	28.14	209	21.20
1956	1435	2,640	Aug. 6, 1956	7.4	261	1.95	26.49	283	28.70
1957	1505	3,900	Jan. 23, 1957	1.6	218	1.63	22.07	229	23.18
1958	1555	4,120	Apr. 6, 1958	6.6	273	2.04	27.61	238	24.10
1959	1625	4,970	Jan. 22, 1959	1.8	177	1.32	17.93	235	23.83
1960	1705	6,920	Apr. 4, 1960	9.0	289	2.16	29.53	-	-

KANAWHA RIVER BASIN

1820. Knapp Creek at Marlinton, W. Va.

Location.--Lat 38°12'40", long 80°04'30", on right bank a quarter of a mile downstream from Spice Run and 1 mile southeast of Marlinton, Pocahontas County.

Drainage area.--108 sq mi.

Records available.--September 1945 to September 1958.

Gage.--Staff gage read twice daily. Altitude of gage is 2,090 ft above mean sea level (from topographic map).

Average discharge.--13 years (1945-58), 149 cfs.

Extremes.--1945-58: Maximum discharge, 7,710 cfs July 15, 1954 (gage height, 13.86 ft, from floodmark), from rating curve extended above 2,100 cfs by logarithmic plotting; minimum daily, 2.0 cfs Sept. 11-13, 1955.

Remarks.--Records of water temperatures for the period October 1946 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

[illegible]

Monthly and yearly runoff, in inches

[illegible]

Yearly discharge, in cubic feet per second

[illegible]

1825. Greenbrier River at Buckeye, W. Va.

Location.--Lat 38°11'15", long 80°07'50", on right bank at upstream side of highway bridge at Buckeye, Pocahontas County, 1,000 ft upstream from Swago Creek and 3.5 miles downstream from Knapp Creek. Records include flow of Swago Creek.

Drainage area.--540 sq mi, including that of Swago Creek.

Records available.--September 1929 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,085.89 ft above mean sea level, datum of 1929. Prior to Feb. 27, 1939, chain gage at same site and datum.

Average discharge.--31 years (1929-60), 850 cfs.

Extremes.--1929-60: Maximum discharge, 41,500 cfs Feb. 5, 1932 (gage height, 17.5 ft, from floodmarks), from rating curve extended above 25,000 cfs; minimum, 3.8 cfs Aug. 13, 1930 (gage height, 1.19 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	329	770	1,737	1,253	2,255	1,756	1,921	669	1,120	204	70.5	57.3	1,002
1952	27.2	244	1,173	3,120	1,008	1,980	1,371	1,332	194	96.8	122	58.2	898
1953	36.5	95.7	451	1,708	2,080	1,870	1,206	922	407	115	27.1	13.8	735
1954	15.4	34.4	252	1,027	629	2,203	1,229	726	568	940	364	141	680
1955	1,179	813	1,621	781	2,560	3,587	557	†605	253	79.8	143	57.4	997
1956	47.3	142	219	192	2,509	1,806	1,253	700	817	325	50.5	162	715
1957	210	462	1,152	2,152	2,211	971	1,839	338	699	278	47.8	87.8	861
1958	274	471	1,805	864	1,045	1,533	3,097	1,658	200	450	717	151	1,021
1959	61.4	118	204	893	812	1,369	1,922	1,187	855	96.8	110	29.9	636
1960	377	835	1,467	1,479	1,045	1,673	2,101	1,181	486	172	90.3	499	950

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.70	1.59	3.71	2.67	4.35	3.75	3.97	1.43	2.31	0.44	0.15	0.12	25.19
1952	.06	.50	2.50	6.66	2.01	4.23	2.83	2.84	.40	.21	.26	.12	22.62
1953	.08	.19	.96	3.65	3.97	3.99	2.49	1.97	.84	.25	.06	.03	18.48
1954	.03	.07	.54	2.19	1.21	4.70	2.54	1.55	1.17	2.01	.78	.29	17.08
1955	2.52	1.68	3.46	1.67	4.94	7.23	1.15	1.29	.52	.17	.31	.12	25.06
1956	.10	.29	.47	.41	5.01	3.85	2.59	1.50	1.69	.69	1.08	.33	18.01
1957	.45	.96	2.46	4.59	4.26	2.07	3.80	.72	1.44	.59	.10	.16	21.62
1958	.59	.97	3.65	1.84	2.01	3.27	6.40	3.54	.41	.96	1.53	.27	25.64
1959	.13	.24	.44	1.91	1.57	2.92	3.97	2.53	1.77	.21	.24	.06	15.99
1960	.81	1.73	3.13	3.16	2.09	3.57	4.34	2.52	1.00	.37	.19	1.03	23.94

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	19,000	Dec. 8, 1950	27	1,002	1.86	25.19	1,021	25.67
1952	1235	17,500	Mar. 11, 1952	20	898	1.66	22.62	825	20.79
1953	1275	27,200	Feb. 21, 1953	10	735	1.36	18.48	711	17.89
1954	1335	20,700	July 15, 1954	9.8	680	1.26	17.08	959	24.10
1955	1385	27,300	Oct. 16, 1954	24	997	1.85	25.06	726	18.26
1956	1435	9,900	Mar. 14, 1956	26	715	1.32	18.01	834	21.02
1957	1505	15,100	Jan. 23, 1957	15	861	1.59	21.62	922	23.16
1958	1555	15,400	May 5, 1958	50	1,021	1.69	25.64	838	21.04
1959	1625	14,800	June 2, 1959	11	636	1.18	15.99	829	20.85
1960	1705	19,800	Apr. 4, 1960	32	950	1.76	23.94	-	-

1830. Second Creek near Second Creek, W. Va.

Location.--Lat 37°41'05", long 80°27'25", on left bank 10 ft upstream from bridge on U.S. Highway 219, 1.5 miles downstream from Second Creek, Monroe County, and 8 miles upstream from mouth.

Drainage area.--80.8 sq mi.

Records available.--October 1945 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,812.36 ft above mean sea level, datum of 1929. Prior to Oct. 18, 1947, staff gage at site 100 ft upstream at same datum.

Average discharge.--15 years (1945-60), 78.3 cfs.

Extremes.--1945-60: Maximum discharge, 6,100 cfs Mar. 31, 1958 (gage height, 6.20 ft); minimum, 0.7 cfs Nov. 17, Dec. 24, 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	14.0	27.7	193	48.2	179	240	221	59.2	122	27.7	11.6	9.31	95.4
1952	6.16	10.6	43.8	144	119	238	136	131	19.5	11.7	15.9	6.73	73.6
1953	5.54	14.7	37.7	102	178	181	97.7	119	26.7	9.41	5.49	5.10	64.6
1954	4.30	5.10	12.4	57.1	34.8	148	98.5	166	31.7	90.5	12.3	11.2	56.4
1955	52.6	35.2	137	63.9	262	528	67.0	26.6	13.7	8.06	10.3	4.40	100
1956	5.33	12.3	9.94	15.2	179	156	167	72.6	52.3	32.5	9.36	13.8	59.7
1957	27.6	69.4	45.7	225	285	108	164	35.5	66.9	10.4	6.99	44.4	89.2
1958	34.1	54.3	133	93.6	178	325	238	150	25.4	46.9	30.0	8.16	110
1959	7.58	9.97	21.2	76.9	53.9	96.7	188	58.7	30.2	10.4	10.1	6.10	47.3
1960	18.4	38.7	93.5	60.2	136	271	194	141	28.2	9.26	7.62	11.3	84.0

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.20	0.38	2.76	0.69	2.30	3.42	3.05	0.85	1.69	0.40	0.17	0.13	16.04
1952	.09	.15	.62	2.06	1.59	3.40	1.87	1.87	.27	.17	.23	.09	12.40
1953	.08	.20	.54	1.45	2.30	2.58	1.35	1.70	.37	.13	.08	.07	10.85
1954	.06	.07	.18	.81	.45	2.12	1.36	2.36	.44	1.29	.18	.16	9.48
1955	.75	.49	1.96	.91	3.37	7.54	.92	.38	.19	.11	.15	.06	16.83
1956	.08	.17	.14	.22	2.39	2.22	2.30	1.04	.72	.46	.13	.19	10.06
1957	.39	.96	.65	3.22	3.67	1.54	2.26	.51	.92	.15	.10	.61	14.98
1958	.49	.75	1.90	1.34	2.30	4.64	3.29	2.15	.35	.67	.43	.11	18.42
1959	.11	.14	.30	1.10	.70	1.38	2.59	.84	.42	.15	.14	.08	7.95
1960	.26	.53	1.33	.86	1.82	3.66	2.68	2.02	.39	.13	.11	.16	14.15

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	82.5	13.87
1951	1205	3,050	Dec. 7, 1950	6.0	95.4	1.18	16.04	80.6	13.56
1952	1235	2,310	Mar. 11, 1952	3.3	73.6	.911	12.40	73.4	12.37
1953	1275	1,670	Mar. 24, 1953	2.7	64.6	.800	10.85	81.5	10.34
1954	1335	1,830	Mar. 1, 1954	1.8	56.4	.698	9.48	73.6	12.37
1955	1385	4,680	Mar. 6, 1955	2.7	100	1.24	16.83	83.5	14.02
1956	1435	1,350	Apr. 16, 1956	3.0	59.7	.739	10.06	69.3	11.67
1957	1505	3,270	Jan. 29, 1957	4.8	89.2	1.10	14.98	95.9	16.12
1958	1555	6,100	Mar. 31, 1958	5.9	110	1.36	18.42	94.1	15.83
1959	1625	1,570	Jan. 22, 1959	3.8	47.3	.585	7.95	56.7	9.52
1960	1705	2,160	Mar. 30, 1960	4.2	84.0	1.04	14.15	-	-

1835. Greenbrier River at Alderson, W. Va.

Location.--Lat 37°43'30", long 80°38'30", on left bank 400 ft upstream from highway bridge at Alderson, Monroe County, and half a mile upstream from Muddy Creek.

Drainage area.--1,357 sq mi.

Records available.--July 1895 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,529.42 ft above mean sea level, datum of 1929. Prior to Oct. 15, 1929, wire or chain gage at bridge 400 ft downstream at same datum.

Average discharge.--65 years (1895-1960), 1,993 cfs.

Extremes.--1895-1960: Maximum discharge, 77,500 cfs Mar. 14, 1918 (gage height, 22.0 ft, from floodmarks), from rating curve extended above 30,000 cfs; minimum, 24 cfs Aug. 12, Oct. 1, 2, 1930 (gage height, 1.65 ft).

Remarks.--Records of water temperatures for the periods October 1946 to March 1949 and October 1949 to September 1953 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	439	1,110	3,723	2,294	5,278	4,275	5,086	1,376	3,083	476	182	161	2,265
1952	67.1	456	2,295	6,179	2,249	4,642	2,957	2,962	472	191	540	150	1,938
1953	84.6	202	357	3,452	5,001	4,221	2,488	2,139	755	267	89.2	71.0	1,621
1954	44.0	82.6	636	2,353	1,196	4,646	2,864	2,120	950	2,291	628	334	1,520
1955	2,044	1,531	3,278	1,893	5,732	8,684	1,335	1,168	526	209	242	105	2,217
1956	105	238	344	344	5,317	4,022	3,964	1,599	1,574	809	865	347	1,608
1957	677	1,283	2,453	4,808	5,750	2,503	3,715	833	1,240	478	161	403	1,999
1958	680	1,265	3,969	2,192	3,121	4,550	6,219	4,125	1,451	1,126	1,751	289	2,477
1959	147	252	466	1,710	1,758	3,170	4,689	2,451	1,868	206	276	88.3	1,417
1960	547	1,404	2,897	2,654	2,505	3,914	4,776	2,641	989	377	228	841	1,978

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.37	0.91	3.16	1.95	4.05	3.63	4.18	1.17	2.54	0.40	0.15	0.13	22.64
1952	.06	.38	1.95	5.25	1.79	3.94	2.43	2.52	.39	.16	.46	.12	19.45
1953	.07	.17	.80	2.93	3.84	3.59	2.03	1.82	.62	.23	.08	.06	16.24
1954	.04	.07	.54	2.00	.92	3.95	2.35	1.80	.78	1.95	.53	.27	15.20
1955	1.74	1.26	2.79	1.61	4.40	7.38	1.10	1.01	.43	.18	.21	.09	22.20
1956	.09	.20	.29	.29	4.23	3.42	3.26	1.36	1.29	.69	.74	.29	16.15
1957	.58	1.05	2.08	4.08	4.41	2.13	3.05	.71	1.02	.41	.14	.33	19.99
1958	.58	1.04	3.37	1.86	2.40	3.87	5.11	3.50	.37	.96	1.49	.24	24.79
1959	.12	.21	.40	1.45	1.35	2.69	3.86	2.08	1.54	.18	.23	.07	14.18
1960	.46	1.15	2.46	2.25	1.99	3.33	3.93	2.24	.81	.32	.19	.69	19.82

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	-	2,162	21.61
1951	1205	29,300	June 14, 1951	87	2,265	1.67	22.64	2,058	20.59		
1952	1235	27,600	Mar. 12, 1952	57	1,938	1.43	19.45	1,804	18.10		
1953	1275	47,100	Feb. 22, 1953	39	1,621	1.19	16.24	1,582	15.85		
1954	1335	29,700	Mar. 1, 1954	37	1,520	1.12	15.20	2,035	20.34		
1955	1385	44,400	Mar. 6, 1955	68	2,217	1.63	22.20	1,697	16.99		
1956	1435	18,200	Mar. 15, 1956	78	1,608	1.18	16.15	1,921	19.28		
1957	1505	28,900	Jan. 30, 1957	55	1,999	1.47	19.99	2,126	21.27		
1958	1555	26,700	May 6, 1958	156	2,477	1.83	24.79	2,051	20.53		
1959	1625	23,900	June 3, 1959	45	1,417	1.04	14.18	1,753	17.52		
1960	1705	35,500	Mar. 31, 1960	97	1,978	1.46	19.82	-	-		

1840. Greenbrier River at Hilldale, W. Va.

Location.--Lat 37°38'25", long 80°48'20", on left bank 100 ft downstream from highway bridge on State Highway 3 at Hilldale, Summers County, 0.1 mile upstream from Howard Creek, 0.9 mile upstream from Powley Creek, 5 miles southeast of Hinton, and 5.6 miles upstream from mouth. Records include flow of Howard Creek.

Drainage area.--1,625 sq mi, including that of Howard Creek.

Records available.--June 1936 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,388.66 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Average discharge.--24 years (1936-60), 2,158 cfs.

Extremes.--1936-60: Maximum discharge, 47,800 cfs Feb. 22, 1953, Mar. 6, 1955 (gage height, 20.50 ft); minimum, 39 cfs Sept. 18-20, 1946; minimum gage height, 0.36 ft Sept. 28, 29, 1959.

Maximum stage known, 21.85 ft Mar. 18, 1936 (discharge, 60,800 cfs, from data furnished by Corps of Engineers).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	484	1,208	4,100	2,468	6,062	4,887	5,881	1,601	3,700	528	202	178	2,578
1952	76.5	488	2,572	7,096	2,840	5,551	3,507	3,524	529	221	599	169	2,273
1953	106	267	1,185	3,919	5,767	4,949	2,851	2,569	908	304	84.9	62.3	1,893
1954	46.4	76.8	850	2,671	1,385	5,274	3,417	2,695	1,164	2,529	683	424	1,776
1955	2,148	1,711	4,012	2,191	6,988	10,460	1,717	1,426	614	253	296	125	2,644
1956	111	257	400	369	6,108	4,798	4,801	1,793	1,793	998	969	433	1,880
1957	781	1,576	2,893	5,678	6,993	3,081	4,250	923	1,410	546	174	505	2,368
1958	841	1,586	4,504	2,676	7,775	5,646	7,226	5,041	560	1,520	2,268	339	2,998
1959	153	255	548	2,018	2,110	3,736	5,677	2,840	2,061	209	297	91.8	1,659
1960	544	1,552	3,318	3,031	3,087	4,562	5,758	2,947	1,121	392	258	859	2,281

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.34	0.83	2.91	1.75	3.88	3.47	4.04	1.14	2.54	0.37	0.14	0.12	21.53
1952	.05	.33	1.82	5.03	1.88	3.94	2.41	2.50	.36	.16	.42	.12	19.02
1953	.08	.18	.84	2.78	3.70	3.51	1.96	1.82	.62	.22	.06	.04	15.81
1954	.03	.05	.60	1.90	.89	3.74	2.35	1.91	.80	1.79	.48	.29	14.83
1955	1.52	1.17	2.85	1.55	4.48	7.42	1.18	1.01	.42	.18	.21	.09	22.08
1956	.08	.18	.28	.26	4.05	3.40	3.30	1.27	1.23	.71	.69	.30	15.75
1957	.55	1.08	2.05	4.03	4.48	2.19	2.92	.65	.97	.59	.12	.35	19.78
1958	.60	1.09	3.20	1.90	2.42	4.01	4.96	3.58	1.38	1.08	1.61	.23	25.06
1959	.11	.18	.39	1.43	1.55	2.65	3.90	2.01	1.42	.15	.21	.06	13.86
1960	.39	1.07	2.35	2.15	2.05	3.24	3.95	2.09	.77	.28	.18	.59	19.11

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	2,454	20.49
1951	1205	-	-	-	-	-	-	2,355	19.65
1952	1235	30,900	June 12, 1951	97	2,578	1.59	21.53	2,140	17.92
1953	1275	47,800	Mar. 12, 1953	63	2,275	1.40	19.02	1,844	15.39
1954	1335	32,700	Feb. 22, 1953	50	1,893	1.16	15.81	2,358	19.69
1955	1385, 1435	47,800	Mar. 2, 1954	43	1,776	1.09	14.83	2,045	17.08
			Mar. 6, 1955	66	2,644	1.63	22.08		
1956	1435	19,500	Mar. 15, 1956	69	1,880	1.16	15.75	2,256	18.89
1957	1505	32,000	Jan. 30, 1957	50	2,368	1.46	19.78	2,511	20.99
1958	1555	28,600	May 6, 1958	179	2,998	1.84	25.06	2,495	20.85
1959	1625	24,200	June 3, 1959	44	1,659	1.02	13.86	2,054	16.99
1960	1705	37,200	Mar. 31, 1960	91	2,281	1.40	19.11	-	-

1845. New River at Hinton, W. Va.

Location.--Lat 37°40'15", long 80°53'40", on right bank at Hinton, Summers County, 0.2 mile upstream from Madam Creek and 1.5 miles downstream from Greenbrier River.

Drainage area.--6,257 sq mi.

Records available.--June 1936 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,355.18 ft above mean sea level, datum of 1929. Prior to June 5, 1949, at site 400 ft upstream at same datum.

Average discharge.--24 years (1936-60), 7,723 cfs (adjusted).

Extremes.--1936-60: Maximum discharge, 246,000 cfs Aug. 15, 1940 (gage height, 18.97 ft), from rating curve extended above 80,000 cfs on basis of slope-area measurement at station at Bluestone Dam, and gaged inflow from Greenbrier River; minimum, 418 cfs Aug. 30, 1948 (gage height, 1.14 ft); minimum daily, 920 cfs Oct. 22, 1941.

Remarks.--Flow regulated since 1939 by Claytor Reservoir and since 1949 by Bluestone Reservoir (combined usable capacity, 721,000 acre-ft). Records of water temperatures for the period October 1946 to September 1953 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,466	3,618	13,980	6,824	13,660	14,030	18,390	7,157	8,599	3,598	3,043	2,379	8,184
1952	1,678	2,624	7,990	13,370	12,230	17,340	10,330	10,010	3,071	2,287	3,892	2,496	7,278
1953	1,793	2,988	4,592	10,150	15,860	17,490	9,313	10,270	5,349	3,553	1,862	1,450	7,009
1954	1,466	1,624	3,192	8,153	4,956	13,600	9,139	8,798	3,577	4,530	2,374	1,940	5,295
1955	4,050	3,607	8,820	6,313	16,570	32,430	10,540	5,284	3,814	3,048	3,009	1,843	8,246
1956	1,793	1,899	2,131	1,850	13,450	11,740	15,330	6,765	4,421	4,145	2,300	2,995	5,688
1957	4,519	6,114	7,285	12,270	30,020	11,470	18,460	4,874	6,689	3,111	1,950	5,105	9,150
1958	4,942	9,141	13,870	10,410	13,060	17,370	22,430	18,470	5,067	4,984	5,964	2,156	10,650
1959	1,849	2,145	4,319	7,861	5,936	8,524	16,610	7,025	4,955	2,465	2,108	3,210	5,568
1960	8,791	6,488	10,500	9,576	15,100	15,500	22,960	9,369	5,394	3,683	3,026	3,208	9,435

Monthly and yearly runoff, in inches (adjusted)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.57	0.71	2.58	1.21	2.29	2.66	3.20	1.29	1.54	0.65	0.53	0.40	17.65
1952	.31	.56	1.46	2.77	1.79	3.18	1.95	1.76	.58	.42	.88	.47	15.93
1953	.31	.55	.81	1.91	2.60	3.18	1.67	1.91	1.00	.64	.34	.24	15.16
1954	.23	.26	.56	1.55	.89	2.50	1.62	1.62	.65	.86	.43	.28	11.45
1955	.76	.69	1.61	1.13	2.87	5.87	1.89	1.02	.66	.58	.55	.31	17.94
1956	.30	.34	.35	.33	2.40	2.17	2.73	1.24	.77	.78	.43	.51	12.35
1957	.77	1.13	1.34	3.03	4.18	2.14	3.28	.95	1.18	.59	.36	.83	19.78
1958	.94	1.63	2.58	1.90	2.22	3.30	3.84	3.46	.92	.92	1.08	.38	23.17
1959	.35	.38	.82	1.38	.96	1.84	2.94	1.34	.89	.45	.41	.56	12.10
1960	1.57	1.15	1.94	1.76	2.62	3.32	3.65	1.74	.95	.70	.55	.54	20.49

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed			Adjusted a/				Observed	Adjusted a/	Runoff in inches
		Discharge	Date	Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
1950	1205										
1951	1205	52,500	Dec. 8, 1950	1,720	8,184	8,153	1.30	17.65	8,459	8,490	18.46
1952	1235	41,400	Jan. 28, 1952	1,450	7,278	7,322	1.17	15.93	7,442	7,450	16.10
1953	1275	50,200	Feb. 22, 1953	1,010	7,009	7,004	1.12	15.16	6,750	6,716	14.54
1954	1335	62,400	Mar. 2, 1954	1,140	5,295	5,282	.844	11.45	6,155	6,209	13.46
1955	1385	61,100	Feb. 7, 1955	1,140	8,246	8,267	1.32	17.94	7,545	7,307	15.87
1956	1435	48,000	Apr. 17, 1956	1,270	5,688	5,685	.909	12.35	6,699	6,720	14.60
1957	1505	65,000	Feb. 3, 1957	1,160	9,150	9,115	1.46	19.78	9,996	9,997	21.69
1958	1555	58,500	Mar. 31, 1958	1,550	10,650	10,680	1.71	23.17	8,998	9,014	19.57
1959	1625	40,300	Apr. 15, 1959	1,140	5,568	5,578	.891	12.10	7,040	7,015	15.21
1960	1705	76,500	Mar. 31, 1960	1,660	9,435	9,420	1.51	20.49	-	-	-

a Adjusted for change in contents in Claytor and Bluestone Reservoirs.

1850. Piney Creek at Raleigh, W. Va.

Location.--Lat 37°45'40", long 81°09'50", on left bank at Raleigh, Raleigh County, 0.5 mile downstream from Whitestick Creek, 0.5 mile upstream from Beaver Creek, and 1½ miles southeast of Beckley.

Drainage area.--52.2 sq mi.

Records available.--August 1951 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,087.24 ft above mean sea level, datum of 1929, supplementary adjustment of 1944.

Average discharge.--9 years (1951-60), 64.0 cfs.

Extremes.--1951-60: Maximum discharge, 2,500 cfs Jan. 29, 1957 (gage height, 5.78 ft); minimum, 0.6 cfs Sept. 8-10, 1957 (gage height, 1.16 ft); minimum gage height, 1.13 ft Sept. 19, 1955.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	11.6	-
1952	1.94	16.8	117	197	83.9	135	120	113	19.0	13.3	55.4	8.05	73.7
1953	2.79	9.89	49.3	143	150	112	70.4	88.4	52.7	13.4	3.53	3.08	57.7
1954	1.50	2.51	10.4	89.6	47.7	109	78.2	113	30.6	25.1	44.3	15.5	47.4
1955	34.7	37.5	121	67.2	258	348	74.7	49.2	13.5	8.67	6.64	1.86	84.3
1956	2.48	3.90	5.59	20.7	192	193	183	53.1	57.7	26.3	10.4	26.1	63.7
1957	10.3	29.2	74.6	231	257	81.3	84.1	23.7	20.5	10.8	5.54	15.3	69.1
1958	15.4	35.4	156	70.2	142	182	163	156	29.9	51.0	38.5	7.75	87.2
1959	2.87	7.02	21.3	61.5	60.4	85.0	143	51.6	32.0	4.54	10.4	5.04	40.2
1960	9.04	60.7	88.9	80.3	83.2	144	86.2	36.7	14.3	13.5	6.66	8.89	52.7

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	0.25	-
1952	0.04	0.36	2.58	4.34	1.73	2.98	2.57	2.50	0.41	0.29	1.22	.17	19.19
1953	.06	.21	1.09	3.15	2.98	2.48	1.51	1.95	1.13	.30	.08	.07	15.01
1954	.03	.05	.23	1.98	.95	2.40	1.67	2.49	.65	.55	.98	.33	12.31
1955	.77	.80	2.68	1.48	5.15	7.69	1.60	1.09	.29	.19	.15	.04	21.93
1956	.05	.08	.12	.46	3.96	4.26	3.91	1.17	1.23	.58	.23	.56	16.61
1957	.23	.62	1.65	5.10	5.13	1.80	1.80	.52	.44	.24	.12	.33	17.98
1958	.34	.76	3.44	1.55	2.83	4.02	3.49	3.45	.64	1.13	.85	.17	22.67
1959	.06	.15	.47	1.36	1.21	1.88	3.07	1.14	.68	.10	.23	.11	10.46
1960	.20	1.30	1.96	1.77	1.72	3.19	1.84	.81	.31	.30	.15	.19	13.74

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1235	-	-	-	-	-	-	-	-
1952	1235	1,310	Apr. 28, 1952	1.7	73.7	1.41	19.19	67.5	17.57
1953	1275	980	Feb. 21, 1953	1.1	57.7	1.11	15.01	53.6	13.96
1954	1335	1,040	Jan. 16, 1954	1.1	47.4	.908	12.31	62.5	16.25
1955	1385, 1435	2,470	Mar. 6, 1955	.9	84.3	1.61	21.93	69.0	17.93
1956	1435	1,360	Apr. 16, 1956	.9	63.7	1.22	16.61	72.3	18.86
1957	1505	2,500	Jan. 29, 1957	.6	69.1	1.32	17.98	76.9	20.02
1958	1555	1,040	Mar. 31, 1958	4.9	87.2	1.67	22.67	72.3	18.81
1959	1625	624	Jan. 22, 1959	1.5	40.2	.770	10.46	50.9	13.24
1960	1705	780	Mar. 30, 1960	1.5	52.7	1.01	13.74	-	-

1855. New River at Caperton, W. Va.

Location.--Lat 38°01'20", long 81°01'45", on left bank 50 ft downstream from suspension footbridge at Caperton, Fayette County, and 2 miles southeast of Nuttallburg.

Drainage area.--6,826 sq mi.

Records available.--November 1928 to September 1958.

Gage.--Water-stage recorder. Datum of gage is 938.44 ft above mean sea level, datum of 1929.

Average discharge.--29 years (1929-58), 8,655 cfs (adjusted).

Extremes.--1928-58: Maximum discharge, 244,000 cfs Aug. 15, 1940 (gage height, 36.0 ft); minimum, 818 cfs Oct. 8, 11, 1930; minimum daily, 836 cfs Oct. 7, 1930.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,608	3,996	16,186	7,793	16,400	16,380	21,900	8,205	10,470	3,734	2,952	2,351	9,439
1952	1,505	2,596	9,346	16,510	14,150	20,210	11,670	12,010	3,246	2,171	3,948	2,472	8,324
1953	1,785	3,116	5,167	12,250	18,350	19,580	10,550	11,710	6,162	3,908	1,890	1,475	7,939
1954	1,446	1,645	3,432	9,138	6,027	15,990	10,730	10,430	4,229	5,042	2,837	2,191	6,111
1955	4,663	4,292	10,420	7,980	20,430	39,720	12,240	6,155	4,046	3,148	3,136	1,827	9,798
1956	1,836	1,932	2,255	2,006	16,630	14,560	18,420	7,835	5,175	4,815	2,518	3,156	6,703
1957	4,740	6,836	8,416	14,540	35,010	12,940	20,600	5,165	7,099	3,337	2,122	5,337	10,320
1958	5,445	9,713	15,890	11,670	15,150	19,680	25,320	21,230	5,362	5,993	6,843	2,239	12,030
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches (adjusted)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.55	0.71	2.74	1.28	2.52	2.85	3.51	1.36	1.72	0.62	0.47	0.36	18.69
1952	.26	.51	1.58	3.07	1.94	3.40	2.01	1.96	.56	.37	.63	.41	16.70
1953	.29	.53	.84	2.11	2.76	3.27	1.74	1.99	1.05	.64	.32	.23	15.77
1954	.21	.24	.56	1.58	.98	2.70	1.74	1.76	.70	.87	.47	.30	12.11
1955	.80	.75	1.75	1.31	3.22	6.61	2.00	1.08	.65	.55	.53	.28	19.53
1956	.28	.31	.34	.33	2.71	2.46	3.01	1.31	.83	.83	.43	.50	13.34
1957	.75	1.15	1.42	3.16	4.58	2.21	3.36	.92	1.16	.58	.36	.80	20.45
1958	.94	1.58	2.71	1.96	2.35	3.41	3.99	3.63	.89	1.01	1.14	.36	23.97
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^{a/}			Observed		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	9,866	9,897	19.69
1951	1205	61,400	Dec. 8, 1950	1,560	9,439	9,407	1.38	18.69	8,565	8,573	17.04
1952	1235	50,800	Jan. 28, 1952	1,260	8,324	8,368	1.23	16.70	8,037	8,023	16.01
1953	1275	59,100	Feb. 22, 1953	1,070	7,939	7,934	1.16	15.77	7,642	7,608	15.12
1954	1335	71,700	Mar. 2, 1954	1,040	6,111	6,098	.893	12.11	7,196	7,250	14.40
1955	1385	86,100	Mar. 6, 1955	1,180	9,798	9,819	1.44	19.53	8,670	8,632	17.16
1956	1435	56,100	Apr. 17, 1956	1,230	6,703	6,700	.982	13.34	7,873	7,894	15.73
1957	1505	74,100	Jan. 30, 1957	1,120	10,320	10,280	1.51	20.45	11,250	11,250	22.36
1958	1555	74,900	Mar. 31, 1958	1,510	12,030	12,060	1.77	23.97	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-

^a Adjusted for change in contents in Claytor and Bluestone Reservoirs.

1865. Williams River at Dyer, W. Va.

Location.--Lat 38°22'45", long 80°29'05", on left bank at Dyer, Webster County, 0.2 mile downstream from Craig Run and 7 miles southwest of Webster Springs.

Drainage area.--128 sq mi.

Records available.--September 1929 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 2,193.46 ft above mean sea level, adjustment of 1912. Prior to June 11, 1930, staff gage at same site and datum.

Average discharge.--31 years (1929-60), 316 cfs.

Extremes.--1929-60: Maximum discharge, 22,000 cfs July 4, 1932 (gage height, 18.45 ft, from floodmarks), from rating curve extended above 5,500 cfs on basis of slope-area measurements at gage heights 12.33 and 18.45 ft; minimum daily, 0.5 cfs Oct. 13-16, 21, 1953; minimum gage height, 0.44 ft Oct. 5, 6, 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	206	280	579	475	678	568	592	385	424	101	26.4	56.5	359
1952	9.02	274	549	877	280	623	477	441	67.3	16.7	53.2	9.34	308
1953	4.71	31.5	252	677	619	459	421	330	145	74.3	11.0	2.34	250
1954	1.07	8.87	158	551	347	717	423	285	187	803	220	50.0	314
1955	428	219	496	364	984	1,163	223	205	102	16.3	70.6	6.47	354
1956	16.2	93.3	189	199	995	638	506	312	374	189	304	176	329
1957	188	282	503	857	702	331	533	88.2	264	134	26.7	33.9	326
1958	159	255	599	312	375	405	1,421	495	153	323	573	57.7	427
1959	32.3	137	138	394	332	490	487	278	201	30.7	145	5.97	222
1960	156	437	569	475	346	462	824	282	141	184	86.3	187	345

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.85	2.44	5.21	4.28	5.52	5.11	5.16	3.47	3.70	0.91	0.24	0.49	38.58
1952	.08	2.39	4.94	7.90	2.36	5.61	4.15	3.98	.59	.15	.48	.08	32.71
1953	.04	.27	2.27	6.09	5.03	4.14	3.67	2.97	1.26	.67	.10	.02	26.53
1954	.01	.08	1.42	4.96	2.82	6.46	3.69	2.57	1.63	7.24	1.98	.44	33.30
1955	3.86	1.91	4.47	3.27	8.00	10.47	1.94	1.85	.89	.15	.64	.06	37.51
1956	.15	.81	1.70	1.79	8.38	5.75	4.41	2.81	3.26	1.71	2.73	1.53	35.03
1957	1.69	2.46	4.53	7.71	5.71	2.98	4.65	.79	2.30	1.20	.24	.30	34.56
1958	1.43	2.22	5.39	2.81	3.05	3.65	12.39	4.46	1.33	2.91	5.16	.50	45.30
1959	.29	1.19	1.24	3.55	2.70	4.42	4.24	2.50	1.76	.28	1.31	.05	25.53
1960	1.40	3.81	5.12	4.28	2.91	4.16	7.18	2.54	1.23	1.66	.78	1.63	36.70

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	417	44.21
1951	1205	6,510	Dec. 7, 1950	4.8	359	2.80	38.58	342	36.29
1952	1235	7,890	Mar. 11, 1952	2.0	308	2.41	32.71	262	27.88
1953	1275	47,190	Feb. 21, 1953	1.7	250	1.95	28.53	240	25.46
1954	1355	12,000	July 15, 1954	.5	314	2.45	33.30	396	42.03
1955	1385	13,600	Mar. 5, 1955	2.3	354	2.77	37.51	282	29.93
1956	1435	9,100	Aug. 6, 1956	2.9	329	2.57	35.03	366	41.05
1957	1505	8,500	Jan. 29, 1957	5.2	326	2.55	34.56	329	34.92
1958	1555	5,160	Dec. 8, 1957	14	427	3.34	45.30	368	38.98
1959	1625	5,860	Jan. 22, 1959	1.2	222	1.73	25.53	294	31.14
1960	1705	11,500	Apr. 4, 1960	14	345	2.70	36.70	-	-

* Not previously published.

1870. Gauley River at Camden on Gauley, W. Va.

Location.--Lat 38°21'55", long 80°36'05", on right bank at Baltimore & Ohio Railroad station at Camden on Gauley, Webster County, 0.2 mile downstream from Coon Creek and 0.9 mile upstream from Strouds Creek.

Drainage area.--236 sq mi.

Records available.--July 1908 to September 1916, October 1929 to September 1960. Prior to October 1934, published as "at Allingdale." Monthly discharge only for some periods, published in WSP 1305. Gage heights collected in this vicinity since 1901 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 2,003.28 ft above mean sea level, adjustment of 1912. July 1908 to Sept. 30, 1916, chain gage at site 1.1 miles downstream at datum 3.08 ft lower. Oct. 20, 1929, to Oct. 29, 1934, chain gage at site 1.1 miles downstream at present datum.

Average discharge.--39 years (1908-16, 1929-60), 578 cfs.

Extremes.--1908-16, 1929-60: Maximum discharge, 42,500 cfs July 4, 1932 (gage height, 27.38 ft, present site and datum, from floodmarks), from rating curve extended above 17,000 cfs by velocity-area studies; minimum, 0.3 cfs Oct. 23-27, 1953; minimum gage height, 0.54 ft Sept. 24, 25, 1930.
Maximum stage known, that of July 4, 1932.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	368	556	1,061	930	1,203	983	1,065	736	747	241	49.5	95.3	666
1952	17.6	461	956	1,529	465	932	857	803	111	32.0	78.9	23.9	524
1953	11.7	52.4	411	1,130	1,014	823	780	645	243	157	37.3	5.72	440
1954	1.40	15.9	250	972	547	1,269	728	505	373	1,215	457	101	539
1955	704	415	1,068	580	1,848	1,820	392	356	143	30.7	109	15.9	618
1956	29.0	165	327	424	1,685	1,217	883	618	748	431	552	340	613
1957	329	481	942	1,534	1,303	676	962	170	362	221	36.1	41.8	584
1958	233	384	1,003	706	722	853	2,148	951	326	613	1,058	112	760
1959	62.9	257	281	757	646	856	946	532	347	47.1	283	9.28	417
1960	208	744	1,020	906	649	879	1,254	482	193	286	167	347	594

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.80	2.63	5.18	4.54	5.31	4.80	5.03	3.60	3.53	1.18	0.24	0.45	38.29
1952	.09	2.18	4.67	7.47	2.12	4.55	4.05	3.92	.52	.16	.39	.11	30.23
1953	.06	.25	2.01	5.52	4.48	4.02	3.69	3.15	1.15	.77	.18	.03	25.31
1954	.007	.08	1.22	4.75	2.41	6.20	3.44	2.47	1.76	5.93	2.23	.48	30.96
1955	3.44	1.96	5.22	2.84	8.15	8.89	1.85	1.74	.68	.15	.53	.08	35.53
1956	.14	.78	1.60	2.07	7.70	5.95	4.18	3.02	3.54	2.10	2.70	1.61	35.39
1957	1.61	2.27	4.60	7.49	5.75	3.30	4.55	.83	1.71	1.08	.18	.20	33.57
1958	1.14	1.82	4.90	3.45	3.19	4.17	10.15	4.65	1.54	2.99	5.17	.53	43.70
1959	.31	1.22	1.37	3.70	2.66	4.16	4.47	2.60	1.64	.23	1.38	.04	24.00
1960	1.02	3.52	4.99	4.43	2.97	4.29	5.93	2.36	.91	1.40	.82	1.64	34.28

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	763	43.89
1951	1205	11,400	Dec. 4, 1950	15	666	2.82	38.29	619	35.62
1952	1235	5,660	Jan. 27, Mar 11, 1952	6.2	524	2.22	30.25	444	25.61
1953	1275	10,400	Feb. 21, 1953	1.9	440	1.86	25.31	422	24.30
1954	1335	19,800	July 19, 1954	.3	539	2.28	30.98	701	40.29
1955	1385	18,300	Mar. 5, 1955	8.8	618	2.62	35.53	477	27.43
1956	1435	12,400	Aug. 6, 1956	11	613	2.60	35.39	717	41.35
1957	1505	14,300	Jan. 29, 1957	6.4	584	2.47	33.57	573	32.95
1958	1555	7,790	Dec. 8, 1957	30	760	3.22	43.70	673	38.74
1959	1625	8,770	Jan. 22, 1959	5.1	437	1.77	24.00	533	30.63
1960	1705	13,400	Apr. 4, 1960	20	594	2.52	34.28	-	-

1875. Cranberry River near Richwood, W. Va.

Location.--Lat 38°17'45", long 80°31'40", on left bank 30 ft downstream from U.S. Forest Service highway bridge, 0.6 mile upstream from Barrenshe Run, 5 miles upstream from mouth, and 5 miles north of Richwood, Nicholas County.

Drainage area.--81.2 sq mi.

Records available.--October 1944 to December 1951.

Gage.--Water-stage recorder. Altitude of gage is 2,100 ft (from topographic map).

Average discharge.--7 years (1944-51), 223 cfs.

Extremes.--1944-51: Maximum discharge, 6,960 cfs Jan. 7, 1946 (gage height, 8.65 ft); minimum, 0.9 cfs Sept. 19, 20, 1946 (gage height, 1.40 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	137	187	352	317	437	389	419	245	288	46.8	23.0	71.5	241
1952	11.1	226	350	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.95	2.57	5.00	4.51	5.60	5.52	5.76	3.48	3.96	0.66	0.33	0.98	40.32
1952	.16	3.11	4.97	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	267	44.66
1951	1205	3,790	Dec. 4, 1950	4.6	241	2.97	40.32	235	39.33

1890. Cherry River at Fenwick, W. Va.

Location.--Lat 38°13'45", long 80°35'00", on left bank at downstream side of highway bridge at Fenwick, Nicholas County, 1,000 ft downstream from Laurel Creek.

Drainage area.--150 sq mi.

Records available.--September 1929 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 2,088.94 ft above mean sea level, adjustment of 1912. Prior to Mar. 16, 1939, chain gage at same site and datum.

Average discharge.--31 years (1929-60), 410 cfs.

Extremes.--1929-60: Maximum discharge, 37,000 cfs July 19, 1954 (gage height, 19.8 ft, from floodmarks), from rating curve extended above 19,000 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.1 cfs Sept. 30, 1930 (corrected).

Corrections.--Momentary minimum discharge, 0.1 cfs September 1932, September 1936, and August 1938, published in many water-supply papers, is in error.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	150	376	799	644	948	901	856	424	562	82.7	50.0	102	488
1952	20.4	397	732	1,088	371	910	694	757	103	17.9	113	23.0	437
1953	9.27	32.8	465	927	865	672	600	451	446	84.1	13.9	2.04	383
1954	11.4	256	771	460	1,023	613	520	309	1,246	508	87.8	487	
1955	511	426	731	553	1,212	1,377	369	292	88.5	28.0	58.7	4.61	466
1956	15.0	84.1	173	234	1,150	736	744	581	400	433	278	167	413
1957	193	326	612	1,035	918	458	634	160	187	111	34.2	75.7	392
1958	217	321	793	465	525	729	1,759	692	142	548	489	79.8	564
1959	41.1	189	181	446	440	767	743	291	250	31.7	154	11.3	294
1960	159	581	769	598	499	631	1,019	416	132	223	103	127	437

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.16	2.80	6.14	4.95	6.58	6.92	6.37	3.26	4.18	0.64	0.38	0.76	44.14
1952	.16	2.96	5.62	8.37	2.67	7.00	5.16	5.82	.77	.14	.87	.17	39.71
1953	.07	.69	3.57	7.13	6.00	5.16	4.46	3.47	3.31	.65	.11	.02	34.64
1954	.007	.08	1.96	5.93	3.19	7.86	4.56	4.00	2.30	9.58	3.91	.65	44.03
1955	3.93	3.17	5.62	4.10	8.41	10.58	2.74	2.24	.66	.22	.45	.03	42.15
1956	.12	.63	1.33	1.80	8.27	5.66	5.54	4.46	2.97	3.33	2.14	1.24	37.49
1957	1.48	2.42	4.70	7.95	6.36	3.52	4.72	1.23	1.39	.85	.26	.56	35.44
1958	1.67	2.39	6.10	3.58	3.65	5.61	13.08	5.32	1.05	4.21	3.76	.59	51.01
1959	.32	1.41	1.59	3.43	3.05	5.90	5.53	2.23	1.86	.24	1.19	.08	26.63
1960	1.22	4.32	5.91	4.59	3.58	4.85	7.58	3.20	.99	1.71	.79	.95	39.69

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	534	48.35
1951	1205	9,750	Dec. 7, 1950	8.8	488	3.25	44.14	473	42.78
1952	1235	10,200	Mar. 11, 1952	3.9	437	2.91	39.71	389	35.30
1953	1275	8,530	Feb. 21, 1953	.9	383	2.55	34.64	358	32.36
1954	1335	37,000	July 19, 1954	.6	487	3.25	44.03	604	54.70
1955	1385	10,900	(a)	1.0	466	3.11	42.15	348	31.51
1956	1435	6,860	May 28, 1956	2.8	413	2.75	37.49	485	44.01
1957	1505	9,200	Jan. 10, 1957	4.8	392	2.61	35.44	409	37.00
1958	1555	6,680	Apr. 6, 1958	15	564	3.76	51.01	486	43.97
1959	1625	5,280	Jan. 22, 1959	2.8	294	1.96	26.63	386	34.96
1960	1705	12,500	Apr. 3, 1960	9.0	437	2.91	39.69	-	-

a Oct. 15, 1954, Mar. 5, 1955.

1895. Gauley River near Summersville, W. Va.

Location.--Lat 38°16'15", long 80°49'10", on right bank at Brooks Bridge, 500 ft downstream from Muddlety Creek and 2 miles east of Summersville, Nicholas County.

Drainage area.--680 sq mi.

Records available.--July 1908 to September 1916, October 1928 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,580.90 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers). July 1908 to September 1916, chain gage at present site at datum 2 ft lower. Nov. 23, 1928, to Jan. 4, 1939, chain gage at present site and datum.

Average discharge.--40 years (1908-16, 1928-60), 1,538 cfs.

Extremes.--1908-16, 1928-60: Maximum discharge, 77,700 cfs July 4, 1932 (gage height, 28.75 ft, from floodmarks), from rating curve extended above 23,000 cfs on basis of contracted-opening measurement at gage height 25.87 ft; minimum, 0.6 cfs Oct. 27, 1953 (gage height, -0.46 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	895	1,671	3,122	2,418	3,452	2,977	3,064	1,976	2,069	546	193	387	1,886
1952	65.1	1,343	2,538	4,150	1,340	2,770	2,328	2,549	352	86.5	276	73.2	1,495
1953	26.9	184	1,320	3,183	2,811	2,110	2,204	1,865	968	408	103	9.85	1,258
1954	1.28	32.2	674	2,664	1,502	3,466	2,117	1,477	867	3,469	1,282	317	1,500
1955	1,714	1,286	2,371	1,745	4,628	5,372	1,194	1,238	406	201	312	26.6	1,695
1956	70.6	405	858	912	4,771	3,409	2,644	1,972	1,964	1,577	1,164	747	1,694
1957	810	1,546	2,654	4,149	3,702	1,873	2,659	570	783	536	129	175	1,601
1958	711	1,044	2,895	1,888	2,191	2,671	5,558	2,756	807	2,190	2,610	272	2,134
1959	153	641	746	2,034	1,745	2,389	2,732	1,484	982	112	733	45.2	1,146
1960	510	2,105	2,865	2,497	1,860	2,468	3,424	1,420	533	816	478	722	1,640

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.52	2.74	5.29	4.10	5.29	5.05	5.03	3.35	3.39	0.93	0.33	0.64	37.66
1952	.11	2.20	4.30	7.04	2.13	4.70	3.82	4.32	.58	.15	.47	.12	29.94
1953	.05	.30	2.24	5.40	4.30	3.58	3.62	3.16	1.59	.69	.17	.02	25.12
1954	.002	.05	1.14	4.51	2.30	5.90	3.47	2.50	1.42	5.91	2.17	.52	29.89
1955	2.91	2.11	4.02	2.96	7.09	9.11	1.96	2.10	.67	.34	.53	.04	33.84
1956	.12	.67	1.46	1.55	7.57	5.78	4.34	3.34	3.22	2.67	1.97	1.23	33.92
1957	1.37	2.21	4.50	7.03	5.67	3.17	4.33	.97	1.29	.91	.22	.29	31.96
1958	1.21	1.71	4.89	3.20	3.35	4.53	9.12	4.67	1.32	3.71	4.43	.45	42.59
1959	.26	1.05	1.26	3.45	2.67	4.05	4.48	2.52	1.63	.19	1.24	.07	22.87
1960	.86	3.45	4.86	4.23	2.95	4.18	5.62	2.41	.87	1.38	.81	1.19	32.81

Yearly discharge, in cubic feet per second

Yearly discharges, in cubic feet per second									
Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	2,152	42.96
1951	1205	27,400	Dec. 4, 1950	47	1,886	2.77	37.66	1,739	34.72
1952	1235	17,900	Mar. 11, 1952	13	1,495	2.20	29.94	1,294	25.92
1953	1275	23,000	Feb. 21, 1953	2.8	1,258	1.85	25.12	1,188	23.72
1954	1335	66,100	July 19, 1954	.7	1,500	2.21	29.89	1,892	37.74
1955	1385	39,700	Mar. 5, 1955	12	1,695	2.49	33.84	1,354	27.05
1956	1435	20,500	Aug. 6, 1956	17	1,694	2.49	33.92	1,986	39.75
1957	1505	31,300	Jan. 29, 1957	22	1,601	2.35	31.96	1,587	31.69
1958	1555	19,400	Dec. 8, 1957	65	2,134	3.14	42.59	1,872	37.35
1959	1625	20,500	Jan. 22, 1959	5.5	1,146	1.69	22.87	1,477	29.47
1960	1705	24,900	Apr. 4, 1960	9.8	1,640	2.41	32.81	-	-

1900. Meadow River at Nallen, W. Va.

Location.--Lat 38°06'45", long 80°52'35", on left bank at highway bridge at Nallen, Fayette County, 0.3 mile downstream from highway bridge on U.S. Highway 19, 2 miles upstream from Anglins Creek and 3 miles downstream from Brackens Creek and Russellville.

Drainage area.--287 sq mi.

Records available.--July 1908 to September 1916 (published as "near Russellville"). October 1928 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,869.47 ft above mean sea level, adjustment of 1912. Prior to Oct. 27, 1942, chain gage at present site and datum.

Average discharge.--40 years (1908-16, 1928-60), 529 cfs.

Extremes.--1908-16, 1928-60: Maximum discharge observed, 11,200 cfs Mar. 5, 1934 (gage height, 15.64 ft), from rating curve extended above 6,500 cfs; no flow at times in 1930 and on Oct. 27, 1953 (regulated by temporary earth dam).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	90.7	321	1,148	687	1,259	1,056	1,131	618	1,118	113	35.3	64.1	631
1952	15.3	216	972	1,413	602	1,283	909	950	123	46.9	106	34.1	558
1953	14.3	69.0	444	1,282	1,276	880	716	640	656	79.6	17.9	4.14	502
1954	1.92	6.97	148	824	528	1,223	794	670	410	688	236	83.6	469
1955	382	542	948	690	1,769	2,171	624	430	121	55.3	39.5	5.29	643
1956	14.1	39.8	110	216	1,682	1,129	1,295	704	456	644	219	139	549
1957	185	415	828	1,422	1,597	708	963	239	178	81.0	31.8	101	556
1958	212	329	1,139	708	966	1,377	1,805	1,023	148	793	778	95.2	782
1959	35.4	93.5	184	576	563	978	1,141	626	182	21.0	87.8	18.6	374
1960	141	602	967	744	688	1,061	1,338	472	170	174	123	149	551

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.36	1.25	4.61	2.76	4.57	4.24	4.40	2.48	4.35	0.45	0.14	0.25	29.86
1952	.06	.84	3.91	5.68	2.26	5.15	3.53	3.82	.48	.19	.43	.13	26.48
1953	.06	.27	1.78	5.15	4.63	3.53	2.78	2.57	2.55	.32	.07	.02	23.73
1954	.008	.03	.60	3.31	1.92	4.91	3.09	2.69	1.60	2.77	.95	.33	22.21
1955	1.53	2.11	3.81	2.77	6.42	8.72	2.43	1.73	.47	.22	.16	.02	30.39
1956	.06	.15	.44	.87	6.32	4.53	5.03	2.83	1.77	2.59	.88	.54	26.00
1957	.75	1.61	3.33	5.71	5.79	2.84	3.74	.96	.69	.33	.13	.39	26.27
1958	.85	1.28	4.58	2.84	3.51	5.53	7.02	4.11	.58	3.18	3.13	.37	36.98
1959	.14	.36	.74	2.31	2.04	3.93	4.44	2.51	.71	.08	.35	.07	17.68
1960	.56	2.34	3.89	2.99	2.59	4.26	5.20	1.89	.66	.70	.49	.58	26.15

Yearly discharge, in cubic feet per second

Daily discharge, in cubic feet per second									
Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	619	29.23
1951	1205	6,340	Dec. 4, 1950	10	631	2.20	29.86	601	28.45
1952	1235	3,570	Apr. 28, 1952	9.5	558	1.94	26.48	501	23.78
1953	1275	6,450	Feb. 21, 1953	2.1	502	1.75	23.73	471	22.28
1954	1335	4,830	July 22, 1954	0	469	1.63	22.21	613	29.02
1955	1385	9,200	Mar. 5, 1955	2.6	643	2.24	30.39	499	23.59
1956	1435	4,740	Apr. 16, 1956	8.2	549	1.91	26.00	655	31.05
1957	1505	5,420	Jan. 10, 1957	11	556	1.94	26.27	577	27.29
1958	1555	5,420	Mar. 31, 1958	26	782	2.72	36.98	666	31.51
1959	1625	3,000	Jan. 22, 1959	6.5	374	1.30	17.68	491	23.23
1960	1705	8,750	Mar. 31, 1960	12	551	1.92	26.15	-	-

1915. Peters Creek near Lockwood, W. Va.

Location.--Lat 38°15'40", long 81°01'20", on right bank 0.9 mile upstream from Line Creek and Lockwood, Nicholas County, 1.3 miles downstream from Tate Run, and $4\frac{1}{4}$ miles upstream from mouth.

Drainage area.--40.9 sq mi. At site used prior to Aug. 3, 1955, 40.6 sq mi.

Records available.--October 1945 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,059.52 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944. Prior to Nov. 2, 1945, staff gage and Nov. 2, 1945, to Aug. 2, 1955, water-stage recorder, at site 0.5 mile upstream at datum 12.67 ft higher.

Average discharge.--15 years (1945-60), 64.9 cfs.

Extremes.--1945-60: Maximum discharge, 6,500 cfs Aug. 2, 1958, Aug. 30, 1959, from rating curve extended above 2,100 cfs on basis of slope-area measurement of peak flow; maximum gage height, 14.43 ft Aug. 2, 1958; no flow Sept. 6-9, 1957.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	18.5	74.2	168	101	203	140	102	86.1	58.2	7.35	4.46	9.10	80.2
1952	2.61	39.7	85.1	173	52.1	117	103	118	16.5	5.25	9.60	4.08	60.7
1953	2.44	3.65	32.0	121	95.1	90.3	65.5	55.4	58.8	3.82	1.20	†.39	43.9
1954	1.124	†.52	5.56	59.4	30.8	111	75.4	40.9	7.70	78.0	37.3	8.83	38.2
1955	40.2	42.4	91.9	78.9	204	287	82.3	67.8	53.5	28.8	6.57	1.03	81.4
1956	2.56	11.1	12.7	36.8	182	191	121	89.8	85.5	119	20.9	15.3	73.5
1957	19.6	34.2	127	176	164	101	119	16.1	8.46	1.85	2.44	8.35	64.1
1958	9.57	14.9	91.1	96.1	155	98.5	169	157	50.3	134	172	7.29	96.1
1959	5.92	13.8	18.4	67.6	69.8	77.7	150	69.7	44.7	7.33	62.7	8.03	49.4
1960	12.3	78.1	87.7	98.0	99.9	116	78.9	39.4	8.94	24.2	21.8	10.8	56.2

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.53	2.04	4.77	2.87	5.21	3.97	2.81	2.44	1.60	0.21	0.13	0.25	26.83
1952	.07	1.09	2.42	4.91	1.38	3.33	2.82	3.55	.45	.15	.27	.11	20.35
1953	.07	.10	.91	3.44	2.44	2.56	1.80	1.57	1.62	.11	.03	.01	14.66
1954	.004	.01	.16	1.69	.79	3.15	2.07	1.16	.21	2.22	1.06	.24	12.76
1955	1.14	1.16	2.61	2.24	5.23	8.14	2.26	1.93	1.47	.82	.19	.03	27.22
1956	.07	.30	.36	1.04	4.80	5.37	3.29	2.53	2.33	3.34	.59	.42	24.44
1957	.55	.93	3.57	4.96	4.18	2.86	3.24	.45	2.23	.05	.007	.23	21.26
1958	.27	.41	2.57	2.71	3.94	2.78	4.61	4.43	1.37	3.77	4.84	.20	31.90
1959	.17	.38	.52	1.90	1.78	2.19	4.08	1.96	1.22	.21	1.77	.22	16.40
1960	.35	2.13	2.47	2.76	2.63	3.27	2.15	1.11	.24	.68	.62	.29	18.70

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	108	35.97
1951	1205	2,540	Dec. 4, 1950	1.2	80.2	1.98	26.83	89.0	23.07
1952	1235	1,470	Jan. 27, 1952	.6	80.7	1.50	20.35	53.3	17.86
1953	1275	3,170	Jan. 17, 1953	.1	43.9	1.08	14.66	41.2	13.75
1954	1335	3,240	July 21, 1954	.01	38.2	.941	12.76	52.4	17.50
1955	1385	4,430	Mar. 5, 1955	.2	81.4	2.00	27.22	68.9	23.04
1956	1435	2,370	July 27, 1956	.5	73.5	1.80	24.44	86.5	28.76
1957	1505	2,040	Jan. 29, 1957	0	64.1	1.57	21.26	58.6	19.46
1958	1565	6,500	Aug. 2, 1958	1.2	96.1	2.35	31.90	89.5	29.72
1959	1625	6,500	Aug. 30, 1959	.9	48.4	1.21	16.40	61.1	17.50
1960	1705	1,200	Nov. 28, 1959	1.6	56.2	1.37	18.70	-	-

1920. Gauley River above Belva, W. Va.

Location.--Lat 38°14'00", long 81°10'45", on right bank half a mile upstream from Belva, Nicholas County, and 1 mile upstream from Twentymile Creek.

Drainage area.--1,315 sq mi.

Records available.--October 1928 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 669.00 ft above mean sea level, adjustment of 1912.

Average discharge.--32 years (1928-60), 2,634 cfs.

Extremes.--1928-60: Maximum discharge, 105,000 cfs July 5, 1932 (gage height, 28.60 ft), from rating curve extended above 37,000 cfs on basis of velocity-area studies and inflow and storage adjustments to record for Kanawha River at Kanawha Falls; minimum, 3.2 cfs Oct. 21, 1953 (gage height, 0.10 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,064	2,640	5,917	3,834	6,395	5,209	5,420	3,331	3,865	749	258	553	3,246
1952	78.1	1,849	4,185	7,232	2,359	5,173	4,176	4,840	653	198	454	137	2,623
1953	56.8	274	1,991	5,453	5,132	4,061	3,721	3,460	2,278	495	118	17.6	2,239
1954	5.9	29.8	835	4,128	2,352	5,914	3,764	2,609	1,420	5,023	1,857	481	2,379
1955	2,422	2,251	4,093	3,268	8,104	10,130	2,266	2,077	643	318	363	42.1	2,975
1956	87.3	440	922	1,443	8,189	6,018	5,182	3,485	3,184	3,067	1,551	983	2,855
1957	1,129	2,127	4,529	7,198	6,793	3,225	4,482	898	982	666	167	261	2,679
1958	963	1,470	4,907	3,435	4,487	5,338	8,691	5,141	1,201	4,394	4,871	453	3,782
1959	219	815	1,053	3,314	2,960	4,173	5,059	2,677	1,526	148	1,081	94.7	1,919
1960	674	3,327	4,590	4,035	3,343	4,422	5,791	2,225	805	1,193	862	964	2,682

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.93	2.24	5.19	3.36	5.06	4.57	4.60	2.92	3.28	0.66	0.23	0.47	33.51
1952	.07	1.57	3.67	6.34	1.93	4.54	3.54	4.24	.55	.17	.40	.12	27.14
1953	.05	.23	1.75	4.78	4.06	3.56	3.16	3.03	1.93	.43	.10	.01	23.09
1954	.005	.03	.73	3.62	1.86	5.18	3.19	2.29	1.21	4.40	1.63	.41	24.56
1955	2.12	1.92	3.59	2.86	6.42	8.88	1.92	1.82	.55	.28	.32	.04	30.72
1956	.08	.37	.81	1.26	6.72	5.28	4.40	3.05	2.70	2.69	1.36	.83	29.55
1957	.99	1.80	3.97	6.31	5.38	2.83	3.80	.79	.83	.58	.15	.22	27.65
1958	.84	1.25	4.30	3.01	3.55	4.68	7.57	4.51	1.02	3.65	4.27	.38	39.03
1959	.18	.69	.92	2.90	2.34	3.86	4.29	2.35	1.29	.13	.95	.08	19.79
1960	.59	2.82	4.02	3.54	2.74	3.88	4.91	1.95	.68	1.05	.76	.82	27.76

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	3,741	36.62
1951	1205	52,800	Dec. 4, 1950	92	3,246	2.47	33.51	2,950	30.46
1952	1235	28,000	Jan. 28, 1952	40	2,623	1.99	27.14	2,306	23.86
1953	1275	37,200	Feb. 21, 1953	8.9	2,239	1.70	23.09	2,116	21.82
1954	1335	67,500	July 19, 1954	3.2	2,379	1.81	24.56	3,044	31.42
1955	1385	60,400	Mar. 5, 1955	14	2,975	2.26	30.72	2,358	24.35
1956	1435	26,200	July 27, 1956	23	2,855	2.17	29.55	3,367	35.05
1957	1505	49,300	Jan. 29, 1957	36	2,679	2.04	27.65	2,643	27.28
1958	1555	38,500	July 24, 1958	130	3,782	2.88	39.03	3,338	34.44
1959	1625	28,800	Jan. 22, 1959	21	1,919	1.46	19.79	2,464	25.42
1960	1705	37,200	Mar. 31, 1960	23	2,682	2.04	27.76	-	-

1930. Kanawha River at Kanawha Falls, W. Va.

Location.--Lat 38°08'20", long 81°12'45", on right bank 150 ft downstream from toll bridge, three-quarters of a mile downstream from village of Kanawha Falls, Fayette County, 2 miles downstream from Gauley Bridge, and 2 miles downstream from confluence of New River and Gauley River.

Drainage area.--8,367 sq mi.

Records available.--March 1877 to September 1960. October 1916 to September 1918 and October 1927 to October 1928, published as "at Lock 2, Montgomery."

Gage.--Water-stage recorder. Datum of gage is 623.20 ft above mean sea level, datum of 1929. Prior to Oct. 27, 1928, staff gages at several sites within 9 miles of present site at various datums.

Average discharge.--83 years (1877-1960), 12,590 cfs (adjusted).

Extremes.--1877-1960: Maximum discharge, 320,000 cfs Sept. 14, 1878 (gage height, 37.8 ft, site then in use, present datum), from gage-height relation and rating curve extended above 150,000 cfs; minimum, 640 cfs Aug. 15, 1930 (gage height, -0.95 ft); minimum daily, 690 cfs Oct. 29, 1921.

Remarks.--Flow regulated since 1939 by Claytor Reservoir and since 1949 by Bluestone Reservoir (combined usable capacity, 721,000 acre-ft). Records of water temperatures for the period December 1957 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4,786	6,943	22,300	11,880	23,520	21,750	27,250	11,750	14,280	4,608	3,265	2,993	12,860
1952	1,615	4,583	13,680	24,130	16,540	25,340	16,060	17,390	4,070	2,440	4,482	2,676	11,100
1953	1,844	3,397	7,205	17,870	23,560	23,930	14,320	15,030	8,458	4,487	2,050	1,510	10,230
1954	1,452	1,669	4,204	13,670	8,521	22,030	14,710	12,840	5,700	11,460	4,851	2,713	8,678
1955	7,163	6,766	14,600	11,640	28,630	50,300	14,120	8,230	4,665	3,553	3,580	1,918	12,980
1956	1,893	2,446	3,243	3,491	25,320	21,150	24,040	11,590	8,752	8,318	4,272	4,229	9,811
1957	6,002	9,236	13,330	22,700	42,410	16,580	25,080	6,101	8,027	4,045	2,318	5,596	13,230
1958	6,362	11,190	20,780	15,380	19,650	25,610	34,280	26,360	6,485	10,780	11,870	2,778	15,960
1959	2,274	3,280	5,542	12,590	9,949	14,100	24,790	10,730	6,968	2,707	3,433	3,276	8,276
1960	9,945	10,610	16,700	15,370	20,190	22,520	31,460	11,720	6,468	5,109	4,127	4,429	13,180

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.61	0.97	3.08	1.60	2.94	3.06	3.57	1.60	1.91	0.62	0.42	0.39	20.77
1952	.22	.68	1.88	3.55	1.90	3.48	2.22	2.34	.56	.34	.59	.36	18.12
1953	.24	.47	.97	2.49	2.90	3.26	1.92	2.09	1.16	.61	.28	.19	16.58
1954	.17	.20	.56	1.91	1.11	3.03	1.95	1.78	.77	1.59	.66	.32	14.05
1955	1.00	.94	2.01	1.60	3.64	6.85	1.89	1.16	.61	.50	.49	.24	20.93
1956	.24	.32	.42	.48	3.32	2.92	3.21	1.59	1.15	1.16	.60	.55	15.96
1957	.78	1.26	1.85	3.70	4.66	2.31	3.34	.88	1.07	.57	.32	.69	21.41
1958	.90	1.50	2.88	2.11	2.48	3.60	4.45	3.67	.88	1.49	1.63	.36	25.95
1959	.32	.44	.80	1.70	1.22	1.99	3.29	1.51	.93	.36	.49	.43	13.48
1960	1.34	1.41	2.31	2.12	2.61	3.45	3.66	1.63	.86	.72	.56	.56	21.43

a Adjusted for change in contents in Claytor and Bluestone Reservoirs.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted a/			Observed	Adjusted a/	Runoff
		Momentary maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date	day							
1950	-	-	-	-	-	-	-	-	13,770	13,800	22.38
1951	1205	87,600	Dec. 4, 1950	1,500	12,860	12,830	1.53	20.77	11,660	11,870	18.89
1952	1235	76,800	Jan. 28, 1952	1,310	11,100	11,140	1.33	18.12	10,470	10,460	17.02
1953	1275	82,200	Feb. 21, 1953	970	10,230	10,220	1.22	16.58	9,803	9,769	15.83
1954	1335	85,800	Mar. 2, 1954	1,010	8,678	8,665	1.04	14.05	10,470	10,520	17.07
1955	1385	131,000	Mar. 6, 1955	1,260	12,880	12,900	1.54	20.93	11,120	11,080	17.96
1956	1435	72,300	Apr. 17, 1956	1,410	9,811	9,808	1.17	15.96	11,570	11,590	18.85
1957	1505	132,000	Jan. 30, 1957	1,150	13,230	13,200	1.58	21.41	14,050	14,050	22.82
1958	1555	83,100	Apr. 1, 1958	1,530	15,960	15,990	1.91	25.95	13,680	13,680	22.23
1959	1625	57,900	Jan. 23, Apr. 14, 1959	1,090	8,276	8,286	.990	13.48	10,480	10,460	16.96
1960	1705	129,000	Mar. 31, 1960	2,100	13,180	13,160	1.57	21.43	-	-	-

a Adjusted for change in contents in Claytor and Bluestone Reservoirs.

1947. Elk River below Webster Springs, W. Va.

Location.--Lat 38°35'50", long 80°29'20", on right bank 10 ft upstream from swinging foot-bridge, 6.5 miles upstream from town of Centralia, 8.9 miles southwest of Salisbury Station, and 8.9 miles northwest of Webster Springs, Webster County.

Drainage area.--268 sq mi.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,020 ft (by barometer).

Extremes.--1959-60: Maximum discharge, 11,800 cfs Apr. 4, 1960 (gage height, 10.52 ft); minimum, 6.5 cfs Oct. 1, 1959 (gage height, 3.01 ft).
Maximum stages known, 26.34 ft in 1861 (probably in September) and 25.87 ft July 26, 1896 (present datum) at site a quarter of a mile upstream from levels to floodmarks pointed out by a local resident.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	215	860	1,157	1,171	722	1,046	1,365	652	192	275	250	506	700

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	0.93	3.58	4.98	5.04	2.91	4.50	5.68	2.81	0.80	1.18	1.07	2.11	35.59

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1960	1705	11,800	Apr. 4, 1960	6.9	700	2.61	35.59	-	-

KANAWHA RIVER BASIN

1950. Elk River at Centralia, W. Va.

Location.--Lat 38°37'00", long 80°33'20", on left bank at Centralia, Braxton County, 200 ft upstream from Houston Run and 0.6 mile upstream from Laurel Creek. Records include flow of Houston Run.

Drainage area.--281 sq mi (including that of Houston Run).

Records available.--October 1934 to September 1960. Monthly discharge only for October and November 1934, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 931.89 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944.

Average discharge.--26 years (1934-60), 653 cfs.

Extremes.--1934-60: Maximum discharge, 18,300 cfs Feb. 3, 1939 (gage height, 14.72 ft); minimum, 1.0 cfs Oct. 27, 1953 (gage height, 2.17 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	409	696	1,332	1,088	1,364	1,068	1,279	942	985	233	58.9	75.9	790
1952	18.9	472	1,046	1,899	509	1,031	965	909	225	68.0	108	33.5	610
1953	14.2	43.4	431	1,264	1,150	1,009	1,030	761	327	89.8	36.2	8.11	510
1954	3.8	15.4	223	1,128	671	1,525	858	412	563	1,391	670	105	633
1955	900	449	1,030	627	2,028	2,334	388	312	171	55.9	127	18.6	697
1956	52.3	208	315	474	2,007	1,525	953	912	1,182	515	723	229	752
1957	257	437	1,138	1,800	1,693	738	1,232	229	499	430	25.4	27.0	702
1958	192	306	1,279	1,016	1,085	1,094	2,290	1,073	381	962	1,223	127	919
1959	68.0	273	311	985	741	862	1,143	611	479	105	271	11.6	487
1960	213	806	1,171	1,218	748	1,094	1,494	662	191	271	246	521	727

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.68	2.76	5.47	4.46	5.05	4.38	5.08	3.86	3.91	0.96	0.24	0.30	36.15
1952	.08	1.87	4.29	7.79	1.95	4.23	3.83	3.73	.89	.28	.44	.13	29.53
1953	.06	.17	1.77	5.18	4.26	4.14	4.09	3.12	1.30	.37	.15	.02	24.63
1954	.02	.05	.92	4.63	2.49	6.26	3.41	1.69	2.24	5.71	2.75	.42	30.59
1955	3.69	1.78	4.22	2.57	7.52	9.58	1.54	1.28	.68	.23	.52	.07	33.68
1956	.21	.82	1.29	1.95	7.70	6.26	3.78	3.74	4.69	2.11	2.97	.91	36.43
1957	1.05	1.74	4.67	7.39	6.27	3.03	4.89	.94	1.98	1.76	.10	.11	33.93
1958	.79	1.22	5.25	4.17	4.02	4.49	9.09	4.40	1.51	3.95	5.02	.50	44.41
1959	.28	1.08	1.28	4.04	2.75	3.54	4.54	2.51	1.90	.43	1.11	.05	23.51
1960	.88	3.60	4.81	5.00	2.87	4.49	5.93	2.71	.76	1.11	1.01	2.07	35.24

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	918	44.36
1951	1205	13,200	Dec. 4, 1950	16	790	2.81	36.15	714	34.49
1952	1235	9,700	Jan. 27, 1952	6.5	610	2.17	29.53	522	25.27
1953	1275	7,730	Feb. 21, 1953	4.5	510	1.81	24.63	489	23.62
1954	1335	11,100	July 15, 1954	1.3	633	2.25	30.59	813	39.29
1955	1385	15,400	Mar. 5, 1955	5.0	697	2.48	33.68	545	26.31
1956	1435	11,100	Aug. 6, 1956	13	752	2.68	36.43	858	41.57
1957	1505	14,700	Jan. 30, 1957	3.5	702	2.50	33.93	698	33.73
1958	1555	13,200	Aug. 8, 1958	26	919	3.27	44.41	824	39.78
1959	1625	9,900	Jan. 22, 1959	4	487	1.73	23.51	624	30.16
1960	1705	12,700	Apr. 4, 1960	8.8	727	2.59	35.24	-	-

1955. Elk River at Sutton, W. Va.

Location.--Lat 38°39'45", long 80°42'35", near left bank on downstream side of pier of highway bridge at Sutton, Braxton County, half a mile upstream from Granny Creek and 2½ miles downstream from Wolf Creek.

Drainage area.--543 sq mi.

Records available.--October 1938 to September 1960. Monthly discharge only for October 1938 to February 1939, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 808.03 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944. Prior to Apr. 5, 1940, chain gage at same site and datum.

Average discharge.--22 years (1938-60), 1,098 cfs.

Extremes.--1938-60: Maximum discharge, 34,200 cfs Jan. 29, 1957 (gage height, 31.27 ft); minimum, 0.4 cfs Oct. 25, 26, 28, 29, 1953; minimum gage height, 1.84 ft Oct. 25, 1953. Maximum stage known, 37.2 ft Mar. 13, 1918, from floodmarks (discharge, about 49,000 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	615	1,401	2,499	1,787	2,597	2,004	2,195	1,563	1,474	511	77.2	113	1,377
1952	30.5	724	1,897	3,211	852	1,575	1,548	1,611	379	101	144	48.6	998
1953	20.8	56.1	568	2,015	1,859	1,576	1,675	1,372	412	142	79.5	12.4	809
1954	2,355	19.2	308	1,604	929	2,256	1,478	644	779	2,535	1,236	196	1,004
1955	1,804	771	1,745	1,103	3,436	3,742	734	498	271	154	172	27.0	1,195
1956	72.9	294	420	795	3,103	2,764	1,634	1,347	1,751	946	1,112	494	1,218
1957	409	758	1,979	2,996	2,642	1,279	2,009	382	803	518	35.9	32.4	1,144
1958	286	395	1,726	1,531	1,759	2,072	3,381	2,113	767	1,999	2,593	230	1,574
1959	108	440	532	1,768	1,354	1,354	2,001	1,237	744	171	462	58.9	846
1960	285	1,439	1,987	2,072	1,429	1,636	2,234	1,118	266	360	400	739	1,162

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.31	2.88	5.31	3.79	4.98	4.26	4.51	3.32	3.03	0.66	0.16	0.23	34.44
1952	.06	1.49	3.60	6.82	1.69	3.34	3.18	3.42	.78	.21	.31	.10	25.01
1953	.04	.12	1.21	4.28	3.53	3.35	3.44	2.91	.85	.30	.17	.03	20.23
1954	.005	.04	.65	3.40	1.78	4.79	3.04	1.37	1.60	5.38	2.62	.40	25.08
1955	3.83	1.59	3.71	2.34	6.59	7.94	1.51	1.06	.56	.33	.37	.06	29.89
1956	.15	.60	.89	1.69	6.16	5.87	3.36	2.86	3.56	2.01	2.36	1.02	30.53
1957	.87	1.56	4.20	6.36	5.07	2.71	4.13	.81	1.85	1.10	.08	.07	28.61
1958	.61	.81	3.66	3.25	3.37	4.40	6.95	4.49	1.58	4.24	5.51	.47	39.34
1959	.23	.90	1.13	3.75	2.56	2.87	4.11	2.63	1.53	.36	.98	.08	21.13
1960	.60	2.96	4.22	4.40	2.84	3.47	4.59	2.37	.55	.77	.85	1.52	29.14

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,563	39.08
1951	1205	24,900	Dec. 4, 1950	24	1,377	2.54	34.44	1,204	30.10
1952	1235	15,500	Jan. 27, 1952	10	998	1.84	25.01	846	21.22
1953	1275	11,100	Feb. 21, 1953	5.3	809	1.49	20.23	782	19.56
1954	1335	20,400	July 21, 1954	.4	1,004	1.85	25.08	1,341	33.51
1955	1385	32,500	Oct. 16, 1954	11	1,195	2.20	29.89	896	22.40
1956	1435	18,800	June 1, 1956	20	1,218	2.24	30.53	1,417	35.52
1957	1505	34,200	Jan. 29, 1957	10	1,144	2.11	28.61	1,082	27.06
1958	1555	25,700	Aug. 8, 1958	35	1,574	2.90	39.34	1,461	36.52
1959	1625	15,700	Jan. 22, 1959	7.1	846	1.56	21.13	1,066	26.65
1960	1705	12,200	Mar. 31, 1960	9.2	1,162	2.14	29.14	-	-

KANAWHA RIVER BASIN

1966. Elk River near Frametown, W. Va.

Location.--Lat 38°35'34", long 80°53'06", on right bank, opposite mouth of Birch River, at village of Glendon, 2.2 miles upstream from Strange Creek and 3.2 miles southwest of Frametown, Braxton County. Records include flow of Birch River.

Drainage area.--752 sq mi (including that of Birch River).

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 775.51 ft above mean sea level, datum of 1929, supplementary adjustment of 1944. Prior to Mar. 25, 1959, staff gage at same site and datum.

Extremes.--1958-60: Maximum discharge, 18,400 cfs Jan. 22, 1959 (gage height, 14.40 ft); minimum, 9.0 cfs Sept. 28, 29, 1959 (gage height, 1.44 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	120	472	667	2,328	1,884	1,801	2,790	1,856	953	163	601	58.3	1,136
1960	344	1,974	2,590	2,737	2,041	2,148	2,830	1,425	348	426	563	835	1,519

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0.18	0.70	1.02	3.57	2.61	2.76	4.14	2.85	1.41	0.25	0.92	0.09	20.50
1960	.53	2.93	3.97	4.20	2.93	3.29	4.20	2.18	.52	.65	.86	1.24	27.50

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1959	1625	18,400	Jan. 22, 1959	9.5	1,136	1.51	20.50	1,442	26.03		
1960	1705	15,300	Mar. 31, 1960	16	1,519	2.02	27.50	-	-		

1968. Elk River at Clay, W. Va.

Location.--Lat 38°27'36", long 81°05'15", on right bank at downstream side of pier of highway bridge at Clay, Clay County, 0.9 mile downstream from Buffalo Creek, 2.1 miles downstream from Lower Two Run Creek and 53.2 miles upstream from mouth.

Drainage area.--994 sq mi.

Records available.--October 1958 to September 1960. Gage heights collected at this site since 1915 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 677.46 ft above mean sea level, datum of 1929, supplementary adjustment of 1944. Prior to Mar. 27, 1959, wire-weight gage at same site and datum.

Extremes.--1958-60: Maximum discharge, 21,900 cfs Mar. 31, 1960 (gage height, 14.84 ft); minimum, 1.5 cfs Sept. 22, 1959 (gage height, -0.13 ft).
Maximum stage known, 32.4 ft Mar. 14, 1918, from reports of U.S. Weather Bureau.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	129	507	749	3,094	2,454	2,205	3,692	2,236	1,122	141	616	85.4	1,411
1960	300	2,102	2,973	3,479	2,851	2,829	3,608	1,754	392	541	751	922	1,870

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0.15	0.57	0.87	3.59	2.57	2.56	4.14	2.59	1.26	0.16	0.71	0.10	19.27
1960	.35	2.36	3.45	4.04	3.07	3.28	4.05	2.03	.44	.63	.87	1.04	25.61

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1959	1625	19,100	Jan. 22, 1959	1.8	1,411	1.42	19.27	1,746	23.84		
1960	1705	21,900	Mar. 31, 1960	10	1,870	1.88	25.61	-	-		

1970. Elk River at Queen Shoals, W. Va.

Location.--Lat 38°28'20", long 81°17'10" (revised), on right bank 50 ft upstream from Queen Shoals Creek, 100 ft downstream from highway bridge at Queen Shoals, Kanawha County, and 4 miles upstream from Big Sandy Creek. Records include flow of Queen Shoals Creek.

Drainage area.--1,145 sq mi (including that of Queen Shoals Creek).

Records available.--October 1928 to September 1960. Monthly discharge only for October, November 1928, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 604.09 ft (revised) above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944. Prior to June 19, 1932, chain gage and June 19, 1932, to Sept. 30, 1946, water-stage recorder, at bridge 100 ft upstream at same datum.

Average discharge.--32 years (1928-60), 1,951 cfs.

Extremes.--1928-60: Maximum discharge, 72,000 cfs July 5, 1932 (gage height, 29.2 ft), from rating curve extended above 40,000 cfs; minimum, 0.3 cfs Nov. 4, 5, 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	925	2,860	4,925	3,173	5,433	3,772	3,775	2,288	1,935	492	106	200	2,468
1952	45.6	1,031	2,913	6,067	1,712	2,995	3,154	3,112	526	199	199	70.3	1,843
1953	29.5	72.5	784	3,445	5,299	3,082	2,994	2,394	935	280	152	22.5	1,447
1954	4.20	10.8	349	2,413	1,327	3,998	2,744	1,069	984	3,512	1,927	411	1,570
1955	2426	1,567	3,113	2,574	6,111	7,216	1,497	1,008	441	239	233	36.6	2,171
1956	87.6	372	489	1,051	5,767	5,554	3,320	1,988	2,961	2,264	1,545	1,036	2,186
1957	523	1,147	3,768	5,711	5,294	2,793	3,255	648	719	865	45.3	43.9	2,050
1958	327	501	2,726	2,981	3,546	3,602	5,307	4,352	1,312	3,312	4,453	293	2,729
1959	142	524	784	3,019	2,645	2,594	3,888	2,482	1,159	154	628	111	1,485
1960	304	2,032	2,997	3,564	3,104	2,894	3,641	1,838	441	608	795	919	1,924

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.93	2.79	4.96	3.19	4.94	3.80	3.66	2.30	1.89	0.50	0.11	0.20	29.27
1952	.05	1.00	2.93	6.11	1.61	3.02	3.07	3.13	.51	.20	.20	.07	21.90
1953	.03	.07	.79	3.47	3.00	3.10	2.92	2.41	.91	.28	.15	.02	17.15
1954	.004	.01	.35	2.43	1.21	4.03	2.67	1.08	.96	3.54	1.94	.40	18.62
1955	2.44	1.33	3.13	2.59	5.56	7.27	1.46	1.01	.43	.24	.23	.04	25.73
1956	.09	.36	.49	1.06	5.43	5.59	3.24	2.00	2.89	2.28	1.56	1.01	26.00
1957	.53	1.12	3.79	5.75	4.81	2.81	3.17	.65	.70	.87	.05	.04	24.29
1958	.33	.49	2.74	3.00	3.23	3.63	5.17	4.38	1.28	3.34	4.48	.29	32.36
1959	.14	.51	.79	3.04	2.41	2.41	3.79	2.50	1.13	.16	.63	.11	17.62
1960	.31	1.98	3.02	3.59	2.92	2.91	3.55	1.85	.43	.61	.80	.90	22.87

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	3,013	35.73
1951	1205	38,800	Feb. 1, 1951	42	2,468	2.16	29.27	2,072	24.57
1952	1235	25,500	Jan. 28, 1952	23	1,843	1.61	21.90	1,583	18.81
1953	1275	19,700	June 17, 1953	11	1,447	1.26	17.15	1,403	16.62
1954	1335	29,400	July 22, 1954	3	1,570	1.37	18.62	2,122	25.16
1955	1385	29,400	Mar. 6, 1955	14	2,171	1.90	25.73	1,668	19.77
1956	1435	22,700	June 2, 1956	27	2,186	1.91	26.00	2,565	30.50
1957	1505	44,200	Jan. 30, 1957	16	2,050	1.79	24.29	1,891	22.41
1958	1555	29,200	Aug. 9, 1958	40	2,729	2.38	32.36	2,550	30.24
1959	1625	17,900	Jan. 23, 1959	9.0	1,485	1.30	17.62	1,811	21.49
1960	1705	20,800	Mar. 31, 1960	14	1,924	1.68	22.87	-	-

1980. Kanawha River at Charleston, W. Va.

Location.--Lat 38°22'10", long 81°42'05", on left bank at old lock 6, 1.0 mile upstream from Davis Creek, 1½ miles downstream from Twonile Creek, 2.0 miles downstream from Patrick Street Bridge at Charleston, Kanawha County, and 3.5 miles downstream from Elk River.

Drainage area.--10,419 sq mi.

Records available.--June 1939 to September 1960. Monthly discharge only for September 1939 to February 1940, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 548.00 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Auxiliary water-stage recorder on left bank, 1.2 miles downstream from Elk River and 2.3 miles upstream from base gage. Prior to July 1, 1942, the auxiliary gage was a wire-weight gage and a water-stage recorder at the Kanawha Boulevard Bridge over Elk River at its mouth. July 1, 1942, to Sept. 30, 1955, the auxiliary gage was a water-stage recorder on left bank 0.5 mile downstream from Elk River and 3.0 miles upstream from base gage.

Average discharge.--21 years (1939-60), 14,410 cfs (adjusted).

Extremes.--1939-60: Maximum discharge, 216,000 cfs Aug. 15, 1940; maximum gage height, 39.72 ft Mar. 7, 1955; minimum discharge, less than 1,030 cfs during period Oct. 1-5, 1953; minimum gage height, 17.42 ft June 11, 1959. Maximum stage known, about 54.3 ft Sept. 29, 1891.

Remarks.--Some regulation since 1939 by Claytor Reservoir and since 1949 by Bluestone Reservoir (combined usable capacity, 721,000 acre-ft). Records of water temperatures for the period March 1953 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5,763	11,210	29,120	17,370	33,160	28,730	33,840	16,510	17,790	5,252	3,460	3,360	17,000
1952	1,685	6,345	18,660	33,400	19,910	30,730	21,410	23,180	4,847	2,953	5,012	2,830	14,290
1953	1,901	3,555	8,284	23,160	28,330	29,300	19,960	18,690	10,010	5,145	2,271	1,553	12,590
1954	1,465	1,703	4,709	16,800	10,230	28,370	19,060	14,520	6,994	13,800	7,337	3,348	10,730
1955	9,969	8,527	18,500	16,810	35,740	61,240	16,340	10,510	5,312	3,943	3,930	1,973	15,980
1956	2,053	2,913	3,864	4,531	34,740	31,170	30,120	13,940	12,740	11,420	6,086	5,614	13,150
1957	6,161	10,440	19,560	28,650	50,790	22,730	30,430	7,056	8,712	4,976	2,363	5,528	16,200
1958	6,669	12,190	25,490	20,900	27,320	32,390	43,430	35,300	7,825	16,050	19,030	3,162	20,800
1959	2,509	3,988	6,525	17,710	15,610	18,740	31,440	14,610	6,296	3,055	3,950	3,328	10,760
1960	9,944	12,940	21,160	21,220	26,320	26,940	37,730	14,490	7,190	5,986	5,340	5,435	16,170

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.60	1.24	3.23	1.89	3.32	3.23	3.58	1.81	1.91	0.57	0.36	0.34	22.08
1952	.19	.74	2.09	3.87	1.86	3.39	2.35	2.51	.54	.33	.53	.31	18.73
1953	.20	.39	.90	2.58	2.81	3.22	2.14	2.09	1.10	.56	.25	.16	16.40
1954	.14	.17	.50	1.89	1.06	3.14	2.03	1.60	.75	1.54	.61	.32	13.95
1955	1.11	.94	2.02	1.84	3.63	6.71	1.75	1.19	.56	.45	.43	.20	20.83
1956	.21	.31	.40	.50	3.64	3.45	3.22	1.54	1.35	1.28	.68	.59	17.17
1957	.65	1.14	2.17	3.63	4.58	2.54	3.25	.81	.93	.56	.26	.54	21.04
1958	.75	1.50	2.84	2.31	2.76	3.64	4.55	3.93	.85	1.78	2.10	.33	27.14
1959	.28	.43	.73	1.92	1.54	2.11	3.56	1.64	.89	.32	.45	.35	14.02
1960	1.07	1.38	2.34	2.35	2.75	3.26	3.77	1.61	.76	.67	.59	.56	21.09

a Adjusted for change in contents in Claytor and Bluestone Reservoirs.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year			
		Observed			Adjusted a/				Observed		Adjusted a/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date									
1950	-	-	-	-	-	-	-	-	-	18,360	18,390	23.96
1951	1205	118,000	Dec. 4, 1950	-	17,000	16,970	1.63	22.08	15,390	15,400	20.03	
1952	1235	106,000	Jan. 28, 1952	-	14,290	14,330	1.38	18.73	13,190	13,190	17.20	
1953	1275	89,100	Feb. 22, 1953	-	12,590	12,580	1.21	16.40	12,100	12,070	15.72	
1954	1335	93,000	Mar. 2, 1954	-	10,730	10,720	1.03	13.95	13,170	13,220	17.21	
1955	1385	159,000	Mar. 6, 1955	-	15,980	16,000	1.54	20.83	15,620	13,580	17.68	
1956	1435	86,600	Mar. 15, 1956	-	13,150	13,150	1.26	17.17	15,450	15,470	20.14	
1957	1505	164,000	Jan. 30, 1957	-	16,200	16,160	1.55	21.04	16,890	16,890	21.99	
1958	1555	104,000	May 7, 1958	-	20,800	20,830	2.00	27.14	18,170	18,190	23.69	
1959	1625	77,500	Jan. 23, 1959	-	10,760	10,770	1.03	14.02	13,370	13,340	17.37	
1960	1705	141,000	Mar. 31, 1960	-	16,170	16,160	1.55	21.09	-	-	-	

a Adjusted for change in contents in Claytor and Bluestone Reservoirs.

1985. Big Coal River at Ashford, W. Va.
(Formerly published as Coal River at Ashford)

Location.--Lat 38°10'45", long 81°42'40", on left bank at downstream side of highway bridge at Ashford, Boone County, 300 ft upstream from Lick Creek, 1 mile downstream from Brush Creek, and 1.8 miles upstream from Bull Creek.

Drainage area.--393 sq mi.

Records available.--June 1908 to September 1916 (published as "at Brushton"), May 1930 to September 1960 (published as "Coal River").

Gage.--Water-stage recorder. Datum of gage is 622.46 ft above mean sea level, datum of 1929. Prior to Aug. 9, 1916, chain gage at site 1 mile upstream at different datum. May 7, 1930, to Dec. 30, 1938, chain gage and Dec. 31, 1938, to Feb. 10, 1939, staff gage, at present site and datum.

Average discharge.--38 years (1908-16, 1930-60), 499 cfs.

Extremes.--1908-16, 1930-60: Maximum discharge, 35,800 cfs Aug. 9, 1916 (gage height, 36.3 ft, from floodmark, site and datum then in use, or 35.66 ft, from floodmark, present site and datum), from rating curve extended above 25,000 cfs; no flow Sept. 18-21, 24, Oct. 6-12, 1930.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	113	625	1,261	617	1,713	1,444	1,074	983	828	169	34.9	84.2	739
1952	17.3	183	918	1,664	650	1,289	1,180	913	121	76.1	199	47.4	607
1953	19.6	57.8	244	1,016	944	962	514	584	425	297	35.4	14.5	424
1954	7.39	16.0	54.5	466	225	774	523	352	144	198	325	150	269
1955	276	313	832	943	1,769	2,866	561	594	177	111	39.1	12.0	704
1956	21.8	46.3	60.5	158	1,533	1,874	1,368	379	452	118	62.6	98.7	509
1957	72.5	115	623	1,601	1,873	879	888	117	65.1	40.4	11.9	44.3	519
1958	53.2	136	774	828	1,245	1,319	1,671	1,669	321	615	433	59.6	759
1959	40.1	67.9	121	492	566	642	1,296	418	182	31.1	31.6	13.1	324
1960	64.0	425	494	605	1,004	1,154	767	198	138	188	81.2	42.2	428

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.33	1.77	3.70	1.81	4.54	4.24	3.05	2.88	2.35	0.50	0.10	0.24	25.51
1952	.05	.52	2.69	4.88	1.78	3.35	2.68	.34	.22	.59	.13		21.02
1953	.06	.16	.72	2.98	2.50	2.82	1.46	1.71	1.21	.87	.10	.04	14.63
1954	.02	.05	.16	1.37	.60	2.27	1.48	1.03	.41	.58	.95	.37	9.29
1955	.81	.89	2.44	2.77	4.69	8.41	1.59	1.74	.50	.32	.11	.03	24.30
1956	.06	.13	.18	.46	4.21	5.50	3.88	1.11	1.28	.35	.18	.28	17.62
1957	.21	.33	1.83	4.70	4.96	2.58	2.52	.34	.18	.12	.03	.13	17.93
1958	.16	.39	2.27	2.43	3.30	3.87	4.74	4.90	.91	1.80	1.27	.17	26.21
1959	.12	.19	.36	1.44	1.55	1.88	3.68	1.23	.52	.09	.09	.04	11.19
1960	.19	1.21	1.45	1.78	2.76	3.38	2.18	.58	.39	.55	.24	.12	14.83

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	771	26.65
1951	1205	13,000	Feb. 1, 1951	18	739	1.88	25.51	665	22.97
1952	1235	9,180	Mar. 23, 1952	13	607	1.54	21.02	540	18.69
1953	1275	4,900	Feb. 21, 1953	7.6	424	1.06	14.63	403	13.92
1954	1335	4,340	Jan. 16, 1954	2.5	269	.884	9.29	382	13.20
1955	1385	13,200	Mar. 5, 1955	6.6	704	1.79	24.30	595	20.53
1956	1435	12,300	Mar. 14, 1956	11	509	1.30	17.62	567	19.62
1957	1505	18,300	Jan. 30, 1957	1.4	519	1.32	17.93	532	18.38
1958	1555	8,400	Apr. 28, 1958	17	759	1.93	26.21	697	24.06
1959	1625	6,630	Jan. 22, 1959	3.8	324	.824	11.19	387	13.37
1960	1705	5,490	Mar. 29, 1960	12	428	1.09	14.83	-	-

1990. Little Coal River at Danville, W. Va.

Location--Lat 38°04'45", long 81°50'15", on right bank at upstream side of highway bridge at Danville, Boone County, 900 ft upstream from Turtle Creek and 2.3 miles downstream from confluence of Pond and Spruce Forks.

Drainage area--270 sq mi.

Records available--May 1930 to September 1960. Prior to September 1941, published as "at Madison."

Gage--Water-stage recorder. Datum of gage is 661.12 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1941, chain or wire-weight gage at site 1.5 miles upstream at datum 6.80 ft higher.

Average discharge--30 years (1930-60), 335 cfs.

Extremes--1930-60: Maximum discharge, 42,800 cfs Feb. 3, 1939 (gage height, 30.2 ft, from floodmarks, present site and datum), from rating curve extended above 12,000 cfs on basis of slope-area measurement of peak flow; no flow at times July to October 1930.
Revisions--The momentary maximum discharges for the water years 1943 and 1946 published in WSP 1305 have been revised to 18,200 and 15,600 cfs respectively.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	55.7	375	944	429	1,274	1,025	874	612	480	79.5	23.4	76.5	515
1952	12.7	200	731	1,238	413	955	807	639	90.0	40.0	74.5	17.8	437
1953	9.84	31.8	127	777	604	689	327	470	126	161	23.6	7.68	277
1954	2.93	5.91	27.1	254	142	452	366	250	74.7	229	216	97.6	177
1955	175	266	615	643	1,191	2,016	354	398	114	75.1	22.7	9.44	487
1956	22.1	27.1	40.6	116	999	1,266	876	229	235	88.8	44.5	62.3	332
1957	27.9	51.4	407	1,220	1,312	529	560	63.1	30.6	27.5	10.1	42.5	351
1958	38.1	79.9	536	688	928	784	1,192	1,197	209	379	223	34.0	522
1959	27.9	44.7	85.3	340	451	399	867	242	195	30.0	28.6	16.7	224
1960	38.9	208	346	408	766	817	475	122	66.7	132	77.5	29.4	289

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.24	1.54	4.03	1.83	4.91	4.38	3.61	2.61	1.98	0.34	0.10	0.32	25.88
1952	.05	.83	3.12	5.28	1.65	4.08	3.34	2.73	.37	.17	.32	.07	22.01
1953	.04	.13	.54	3.32	2.33	2.86	1.35	2.01	.52	.69	.10	.03	13.92
1954	.01	.02	.12	1.08	.55	1.93	1.51	1.07	.31	.98	.92	.40	8.90
1955	.75	1.10	2.62	2.75	4.59	8.61	1.46	1.70	.47	.32	.10	.04	24.51
1956	.09	.11	.17	.50	3.99	5.49	3.62	.98	.97	.38	.19	.26	16.75
1957	.12	.21	1.74	5.21	5.06	2.26	2.31	.27	.13	.12	.04	.18	17.65
1958	.16	.33	2.29	2.94	3.58	3.35	4.93	5.11	.86	1.62	.95	.14	26.26
1959	.12	.18	.36	1.45	1.74	1.70	3.58	1.03	.80	.13	.11	.07	11.27
1960	.17	.86	1.48	1.74	3.06	3.49	1.96	.52	.28	.56	.33	.12	14.57

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	535	26.88
1951	1205	*13,500	Feb. 1, 1951	6.8	515	1.91	25.88	479	24.08	
1952	1235	8,480	Mar. 23, 1952	7.0	437	1.62	22.01	371	18.72	
1953	1275	4,210	Jan. 8, 1953	2.6	277	1.03	13.92	266	13.36	
1954	1335	4,060	July 22, 1954	1.7	177	.656	8.90	263	13.22	
1955	1385	*14,200	Mar. 5, 1955	3.1	487	1.80	24.51	406	20.41	
1956	1435	12,500	Mar. 14, 1956	8.4	332	1.23	16.75	366	18.45	
1957	1505	14,500	Jan. 29, 1957	5	351	1.30	17.65	365	18.36	
1958	1555	10,900	Apr. 28, 1958	13	522	1.93	26.26	480	24.14	
1959	1625	4,760	Jan. 22, 1959	3.7	224	.830	11.27	261	13.12	
1960	1705	3,590	Mar. 29, 1960	4.9	289	1.07	14.57	-	-	

* Revised.

2010. Pocatalico River at Sissonville, W. Va.

Location.--Lat 38°31'35", long 81°37'50", on left bank at downstream side of bridge on U.S. Highway 21 at Sissonville, Kanawha County, 0.3 mile downstream from Grapevine Creek and 1.8 miles downstream from Pocatalico Creek.

Drainage area.--238 sq mi.

Records available.--June 1908 to September 1916, May 1930 to September 1931, February 1937 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 594.56 ft above mean sea level, adjustment of 1912. June 26, 1908, to Sept. 30, 1916, chain gage at same site at datum 0.59 ft lower. May 20, 1930, to Sept. 30, 1931, and Feb. 17, 1937, to Mar. 4, 1940, chain gage and Mar. 5, 1940, to Nov. 4, 1948, wire-weight gage, at same site and datum.

Average discharge.--32 years (1908-16, 1930-31, 1937-60), 286 cfs.

Extremes.--1908-16, 1930-31, 1937-60: Maximum discharge, 17,000 cfs June 27, 1910, from rating curve extended above 4,200 cfs; maximum gage height, 34.4 ft Apr. 16, 1939, from floodmarks; no flow Sept. 25-29, 1959.

Correction.--In WSP 1305, the monthly mean discharge for August 1911 is listed in error; it should be 246 cfs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	54.7	596	834	766	1,109	929	539	232	220	11.5	4.44	25.2	439
1952	1.16	272	783	991	317	751	428	483	58.9	108	17.0	1.20	353
1953	.397	3.62	43.4	571	354	581	370	156	25.9	12.6	12.0	.145	177
1954	.083	.085	1.14	93.0	36.4	483	303	83.0	45.1	128	187	30.4	115
1955	231	94.4	412	325	948	1,071	235	108	12.3	55.9	42.1	†.727	292
1956	9.81	25.7	33.9	159	1,149	1,073	594	280	228	397	84.7	103	340
1957	14.3	18.7	935	683	836	461	360	49.1	47.9	6.01	1.11	18.0	283
1958	61.7	132	578	643	717	505	715	749	169	657	365	19.1	442
1959	12.5	63.6	105	559	460	264	509	143	30.2	17.6	8.99	.950	179
1960	6.23	119	257	519	764	468	250	347	55.2	70.0	195	22.4	255

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.27	2.79	4.04	3.71	4.85	4.50	2.53	1.12	1.03	0.06	0.02	0.12	25.04
1952	.006	1.27	3.79	4.80	1.44	3.64	2.01	2.34	.28	.52	.08	.006	20.18
1953	.002	.02	.21	2.77	1.55	2.81	1.74	.76	.12	.06	.06	.0007	10.10
1954	.0004	.0004	.006	.45	.18	2.34	1.42	.40	.21	.62	.81	.14	6.56
1955	1.12	.44	2.00	1.58	4.15	5.19	1.10	.52	.06	.27	.20	.003	16.63
1956	.05	.12	.16	.77	5.21	5.20	2.78	1.26	1.07	1.92	.41	.48	19.43
1957	.07	.09	4.53	3.31	3.66	2.23	1.69	.24	.22	.03	.005	.08	16.16
1958	.30	.62	2.80	3.11	3.14	2.45	3.35	3.63	.79	3.18	1.77	.09	25.23
1959	.06	.30	.51	2.71	2.01	1.28	2.38	.69	.14	.09	.04	.004	10.21
1960	.03	.56	1.25	2.51	3.46	2.27	1.17	1.68	.26	.34	.94	.10	14.57

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches		Mean	Runoff in inches	
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	-	494	28.21
1951	1205	10,200	Feb. 1, 1951	0.6	439	1.87	25.04	403	23.01	403	23.01
1952	1235	6,940	May 21, 1952	.2	353	1.48	20.18	268	15.35	268	15.35
1953	1275	3,800	Mar. 24, 1953	.08	177	.744	10.10	173	9.88	173	9.88
1954	1355	2,230	Mar. 13, 1954	.07	115	.483	6.56	177	10.11	177	10.11
1955	1385	6,640	Feb. 27, 1955	.1	292	1.23	16.63	235	13.40	235	13.40
1956	1435	7,560	Feb. 18, 1956	1.2	340	1.43	19.43	416	23.79	416	23.79
1957	1505	10,100	Dec. 14, 1956	.01	283	1.19	16.16	266	15.18	266	15.18
1958	1555	5,860	May 7, 1958	2.2	442	1.86	25.23	392	22.38	392	22.38
1959	1625	3,500	Jan. 21, 1959	0	179	.752	10.21	196	11.18	196	11.18
1960	1705	3,560	Jan. 15, 1960	.1	255	1.07	14.57	-	-	-	-

2015. Ohio River at Point Pleasant, W. Va.

Location.--Lat 38°50'25", long 82°08'30", on left bank at Point Pleasant, Mason County, 1,200 ft upstream from Kanawha River and at mile 265.4. Records include flow of Kanawha River.

Drainage area.--52,760 sq mi, approximately (includes that of Kanawha River).

Records available.--March 1940 to September 1960 (since October 1952, no low-flow records) Records of gage heights collected in this vicinity since 1889 are contained in reports of the U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 514.10 ft above mean sea level, Sandy Hook datum. Prior to Oct. 1, 1951, at site 0.3 mile upstream at same datum. Auxiliary water-stage recorder at old lock 26, 0.7 mile upstream from Gallipolis lock and dam and 13.1 miles downstream from base gage.

Extremes.--1940-60: Maximum discharge, 522,000 cfs Jan. 1, 1943; maximum gage height, 55.00 ft Apr. 16, 1948; maximum gage height at auxiliary gage 59.76 ft Apr. 16, 1948; minimum discharge not determined; minimum gage height, 22.52 ft Sept. 10, 1956.

Remarks.--Flow partly regulated by dams and reservoirs upstream. Daily discharge less than 35,000 cfs not published since September 1952.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24,250	77,630	172,800	165,900	192,900	171,400	165,700	78,820	73,060	39,490	11,790	10,740	98,120
1952	8,802	38,530	96,180	211,000	142,900	148,500	117,300	104,400	27,550	16,100	16,410	10,070	79,110
1953	-	-	-	-	96,290	111,800	102,500	99,220	-	-	-	-	-
1954	-	-	-	-	-	107,800	101,300	-	-	-	-	-	-
1955	-	-	76,240	-	147,700	251,800	81,030	-	-	-	-	-	-
1956	-	-	-	-	204,700	215,700	159,000	132,200	-	67,130	-	-	-
1957	-	-	-	114,500	153,700	91,990	178,500	49,450	-	-	-	-	-
1958	-	-	-	-	75,920	112,200	138,300	164,600	-	-	92,500	-	-
1959	-	-	-	-	158,000	109,200	119,700	81,470	-	-	-	-	-
1960	-	-	114,100	126,400	120,600	81,490	165,300	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	431,000	Dec. 9, 1950	-	98,120	1.86	25.23	99,590	25.64
1952	1235	436,000	Jan. 29, 1952	-	78,110	1.48	20.13	87,080	22.38
1953	1275	195,000	Mar. 28, 1953	-	-	-	-	-	-
1954	1335	210,000	Mar. 4, 1954	-	-	-	-	-	-
1955	1385	502,000	Mar. 7, 1955	-	-	-	-	-	-
1956	1435	353,000	Mar. 10, 1956	-	-	-	-	-	-
1957	1505	329,000	Apr. 10, 1957	-	-	-	-	-	-
1958	1555	405,000	May 9, 1958	-	-	-	-	-	-
1959	1625	412,000	Jan. 24, 1959	-	-	-	-	-	-
1960	1705	365,000	Apr. 2, 1960	-	-	-	-	-	-

Note.--Figures of monthly discharge in cubic feet per second per square mile and runoff in inches, previously published in water supply papers, may be subject to considerable error because of regulation in several reservoirs upstream. Those figures should not be used.

2020. Raccoon Creek at Adamsville, Ohio

Location.--Lat 38°52'31", long 82°21'18", on line between secs. 25 and 26, T.6 N., R.16 W., on right bank at downstream side of highway bridge, 480 ft upstream from U.S. Highway 35, at Adamsville, Gallia County, and 1.3 miles downstream from Indian Creek.

Drainage area.--587 sq mi.

Records available.--June 1915 to December 1935, October 1938 to September 1960. Monthly discharge only for December 1935, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 570.85 ft above mean sea level, adjustment of 1912. Prior to June 13, 1940, staff gage at same site and datum.

Average discharge.--42 years (1915-35, 1938-60), 653 cfs.

Extremes.--1915-35, 1938-60: Maximum discharge, 15,500 cfs Apr. 15, 1948 (gage height, 24.92 ft), from rating curve extended above 9,200 cfs on basis of velocity-area study; minimum, 1.4 cfs Sept. 24, 1930 (gage height, 1.54 ft).
Maximum stage known, 25.2 ft in January 1937, from floodmark.

Remarks.--Records of chemical analyses and water temperatures for the period October 1951 to September 1954 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	115	529	1,654	2,363	2,693	2,023	1,172	708	150	83.1	27.3	11.5	952
1952	11.2	148	976	2,071	1,212	1,794	802	376	87.9	132	21.5	9.94	638
1953	4.93	11.6	71.7	754	478	1,154	854	1,189	115	176	63.5	8.36	408
1954	3.68	10.6	8.92	52.5	44.7	400	710	698	82.4	50.2	150	31.8	186
1955	40.1	76.5	396	515	1,551	2,223	1,158	565	149	606	151	27.8	617
1956	168	118	151	196	297	2,199	1,548	1,219	310	135	226	165	773
1957	78.8	64.5	682	1,013	1,547	703	1,219	433	122	49.7	16.9	11.5	488
1958	11.1	186	1,213	671	537	743	1,282	1,902	579	1,752	509	123	797
1959	66.9	106	391	1,715	1,212	647	918	540	96.0	39.6	25.8	10.9	494
1960	118	260	814	1,133	1,111	898	564	477	159	119	50.2	24.6	476

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.23	1.01	3.25	4.65	4.78	3.98	2.23	1.40	0.29	0.16	0.05	0.02	22.05
1952	.02	.28	1.91	4.07	2.22	3.53	1.53	.74	.17	.26	.04	.02	14.79
1953	.01	.02	.14	1.48	.85	2.27	1.62	2.34	.22	.35	.12	.02	9.44
1954	.007	.02	.02	.10	.08	.79	1.35	1.37	.12	.10	.30	.06	4.32
1955	.08	.14	.78	1.01	2.75	4.37	2.20	1.11	.28	1.19	.30	.05	14.26
1956	.33	.22	.26	.39	5.46	4.32	2.94	2.40	.59	.27	.44	.31	17.93
1957	.15	.12	1.34	1.99	2.75	1.38	2.31	.85	.23	.10	.03	.02	11.27
1958	.02	.35	2.39	1.31	.95	1.46	2.43	3.74	1.10	3.44	1.00	.23	18.42
1959	.13	.20	.77	3.37	2.14	1.66	1.74	1.06	.18	.08	.05	.02	11.40
1960	.23	.49	1.60	2.22	2.04	1.76	1.07	.94	.30	.23	.10	.05	11.03

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	903	20.88
1951	1205	8,770	Jan. 17, 1951	5.2	952	1.62	22.05	854	19.77
1952	1235	5,190	Mar. 25, 1952	3.7	638	1.09	14.79	549	12.75
1953	1275	3,240	Mar. 7, 1953	2.5	408	.695	9.44	402	9.32
1954	1335	2,520	May 6, 1954	2.1	186	.317	4.32	228	5.27
1955	1585	4,190	Mar. 4, 1955	15	617	1.05	14.26	609	14.07
1956	1435	5,090	Apr. 3, 1956	28	773	1.32	17.93	808	18.73
1957	1505	5,090	Feb. 10, 1957	4.6	488	.831	11.27	537	12.42
1958	1555	6,830	July 26, 1958	5.0	797	1.36	18.42	726	16.76
1959	1625	7,090	Jan. 24, 1959	6	494	.842	11.40	547	12.62
1960	1705	3,170	Feb. 11, 1960	15	476	.811	11.03	-	-

2030. Guyandotte River at Man, W. Va.
(Formerly published as Guyandot River at Man)

Location.--Lat 37°44'30", long 81°52'45", on right bank on downstream side of highway bridge at Man, Logan County, 500 ft upstream from Buffalo Creek and 0.7 mile downstream from Huff Creek. Records include flow of Buffalo Creek.

Drainage area.--762 sq mi (including that of Buffalo Creek).

Records available.--December 1928 to September 1960. Prior to October 1959, published as Guyandot River at Man.

Gage.--Water-stage recorder. Datum of gage is 710.88 ft above mean sea level, adjustment of 1912. Prior to July 3, 1934, chain gage at same site and datum.

Average discharge.--31 years (1929-60), 979 cfs.

Extremes.--1928-60: Maximum discharge observed, 40,000 cfs Mar. 3, 1934 (gage height, 19.11 ft), from rating curve extended above 20,000 cfs; maximum gage height, 22.25 ft Jan. 29, 1957; minimum discharge, 3.0 cfs Oct. 6, 1930 (gage height, 2.32 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	183	519	1,920	971	2,673	2,806	2,232	1,473	861	277	131	246	1,181
1952	63.8	602	2,352	3,624	1,447	2,642	2,167	1,855	260	170	350	118	1,309
1953	52.8	146	501	1,751	2,125	1,840	1,021	1,481	739	286	83.5	48.1	851
1954	34.8	27.0	123	1,087	494	1,366	1,955	1,282	326	861	454	261	611
1955	335	506	2,028	1,586	4,113	5,751	1,376	794	317	148	77.7	43.0	1,410
1956	62.3	112	114	293	3,001	3,376	3,022	1,076	897	527	167	343	1,072
1957	209	376	1,374	3,883	4,447	1,551	1,828	515	240	270	85.9	191	1,210
1958	173	558	1,937	1,339	2,453	2,841	2,954	3,203	759	1,106	1,019	163	1,559
1959	97.5	152	368	1,241	1,225	1,363	2,506	608	500	105	165	73.7	695
1960	221	1,172	1,455	1,357	1,955	1,995	1,366	455	307	347	189	104	898

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.28	0.76	2.90	1.47	3.65	4.25	3.27	2.23	1.26	0.42	0.20	0.36	21.05
1952	.10	.88	3.56	5.48	2.05	4.00	3.17	2.81	.38	.26	.53	.17	23.39
1953	.08	.21	.76	2.62	2.90	2.78	1.49	2.24	1.08	.43	.15	.07	14.79
1954	.05	.04	.19	1.64	.68	2.10	1.40	1.94	.48	1.30	.69	.39	10.89
1955	.51	.74	3.07	2.40	5.62	8.70	2.01	1.20	.46	.22	.12	.06	25.11
1956	.09	.16	.17	.44	4.25	5.11	4.42	1.63	1.31	.80	.25	.50	19.13
1957	.32	.55	2.08	5.88	6.08	2.35	2.68	.48	.35	.41	.13	.28	21.59
1958	.26	.82	2.93	2.03	3.35	4.30	4.32	4.85	1.11	1.67	1.54	.24	27.42
1959	.15	.22	.56	1.88	1.67	2.08	3.67	.92	.73	.16	.25	.11	12.38
1960	.33	1.72	2.20	2.05	2.63	3.02	2.00	.69	.45	.52	.29	.15	16.05

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,372	24.45
1951	1205	19,000	Mar. 18, 1951	34	1,181	1.55	21.05	1,215	21.65
1952	1235	21,000	Mar. 23, 1952	44	1,309	1.72	23.39	1,114	19.90
1953	1275	14,700	Feb. 21, 1953	15	831	1.09	14.79	788	14.02
1954	1355	14,100	July 21, 1954	11	611	1.802	10.89	659	14.93
1955	1365	34,600	Feb. 28, 1955	19	1,410	1.85	25.11	1,192	21.21
1956	1435	23,400	Apr. 16, 1956	34	1,072	1.41	19.13	1,212	21.66
1957	1505	37,600	Jan. 29, 1957	29	1,210	1.59	21.59	1,270	22.65
1958	1555	13,200	May 6, 1958	63	1,539	2.02	27.42	1,366	24.34
1959	1625	12,800	Jan. 22, 1959	29	695	.912	12.38	881	15.70
1960	1705	9,120	Nov. 28, 1959	54	898	1.18	16.05	-	-

2040. Guyandotte River at Branchland, W. Va.
(Formerly published as Guyandot River at Branchland)

Location.--Lat 38°13'15", long 82°12'10", on right bank at downstream side of highway bridge at Branchland, Lincoln County, 20 ft downstream from Fourmile Creek.

Drainage area.--1,226 sq mi.

Records available.--July 1915 to September 1922 (1918-22, gage heights only), December 1928 to September 1960. Monthly discharge only for July to September 1916, published in WSP 1305. Prior to October 1959, published as Guyandot River at Branchland.

Gage.--Water-stage recorder. Datum of gage is 547.91 ft above mean sea level, adjustment of 1912. Prior to June 20, 1932, chain gage at same site and datum. Since Oct. 1, 1942, auxiliary wire-weight gage read twice daily, 4 miles upstream at Midkiff.

Average discharge.--33 years (1915-17, 1929-60), -1,565 cfs.

Extremes.--1915-22, 1928-60: Maximum discharge, 40,400 cfs Jan. 30, 1957 (gage height, 41.88 ft, backwater from Ohio River and tributaries), from rating curve extended above 32,000 cfs; maximum gage height, 42.57 ft Mar. 1, 1955 (backwater from Ohio River and tributaries); minimum discharge, 3.6 cfs Oct. 25, 1930 (gage height, 2.66 ft). Maximum stage known, about 44 ft, from floodmark, probably in 1907 (discharge, 43,500 cfs, from rating curve extended above 32,000 cfs).

Correction.--In WSP 1305, the monthly mean discharge for July 1935 is listed in error; it should be 618 cfs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	363	1,390	3,375	1,723	4,950	4,138	3,414	2,391	1,590	363	199	390	2,003
1952	105	955	3,724	5,315	2,303	4,224	3,123	3,059	503	296	371	136	2,017
1953	80.2	210	644	2,851	3,074	3,284	1,611	2,285	1,028	419	106	59.4	1,297
1954	45.7	58.0	156	1,366	632	1,876	1,397	1,667	449	1,429	871	413	868
1955	462	711	2,518	2,682	5,050	9,180	2,086	1,394	491	279	149	55.3	2,077
1956	86.5	158	161	381	5,524	6,033	4,807	1,400	1,260	659	266	447	1,746
1957	258	464	2,179	5,804	6,991	2,509	2,766	483	300	267	126	258	1,835
1958	233	658	2,798	2,131	3,331	3,854	5,041	5,506	982	1,367	1,361	265	2,291
1959	159	228	505	1,819	1,994	1,910	3,806	1,045	568	158	180	130	1,032
1960	251	1,314	1,892	1,894	3,236	3,036	2,199	717	409	630	296	148	1,328

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.34	1.26	3.17	1.62	4.20	3.89	3.11	2.25	1.45	0.34	0.19	0.35	22.17
1952	.10	.87	3.50	5.00	2.03	3.97	2.84	2.88	.46	.28	.35	.12	22.40
1953	.08	.19	.61	2.69	2.61	3.09	1.47	2.15	.94	.39	.10	.05	14.37
1954	.04	.05	.15	1.28	.54	1.76	1.27	1.57	.41	1.34	.82	.38	9.61
1955	.43	.65	2.37	2.52	4.29	8.63	1.90	1.31	.45	.26	.14	.05	23.00
1956	.08	.14	.15	.36	4.86	5.67	4.37	1.32	1.15	.62	.25	.41	19.38
1957	.24	.42	2.05	5.48	5.94	2.36	2.52	.45	.27	.25	.12	.24	20.32
1958	.22	.60	2.63	2.00	2.83	3.62	4.59	5.18	.89	1.29	1.28	.24	25.37
1959	.15	.21	.48	1.71	1.69	1.80	3.46	.98	.52	.15	.17	.12	11.44
1960	.24	1.20	1.78	1.78	2.85	2.86	2.00	.67	.37	.59	.28	.13	14.75

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2,336	25.86
1951	1205	23,400	Feb. 1, 1951	71	2,003	1.63	22.17	1,975	21.87
1952	1235	23,800	Mar. 24, 1952	73	2,017	1.65	22.40	1,693	18.81
1953	1275	13,300	Feb. 22, 1953	29	1,297	1.06	14.37	1,240	13.73
1954	1335	14,600	July 22, 1954	34	868	.708	9.61	1,158	12.82
1955	1385	36,200	Mar. 1, 1955	34	2,077	1.69	23.00	1,800	19.92
1956	1435	26,300	Apr. 17, 1956	50	1,746	1.42	19.38	1,956	21.72
1957	1505	40,400	Jan. 30, 1957	51	1,835	1.50	20.32	1,902	21.06
1958	1555	27,700	May 7, 1958	105	2,291	1.87	25.37	2,055	22.76
1959	1625	14,600	Jan. 23, 1959	66	1,032	.842	11.44	1,247	13.82
1960	1705	9,260	Mar. 30, 1960	82	1,328	1.08	14.75	-	-

2045. Mud River near Milton, W. Va.

Location.--Lat 38°23'15", long 82°06'46", on right bank 75 ft downstream from highway bridge, 700 ft downstream from Little Two Mile Creek, 0.9 mile upstream from Charley Creek, and 3.4 miles south of Milton, Cabell County.

Drainage area.--256 sq mi (revised).

Records available.--February 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 572.64 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers). Prior to Feb. 9, 1940, staff gage and Feb. 10, 1940, to Nov. 20, 1957, wire-weight gage, at site 75 ft upstream at same datum. Crest-stage gage attached to right abutment of bridge since June 11, 1948.

Average discharge.--22 years (1938-60), 269 cfs.

Extremes.--1938-60: Maximum discharge, 14,500 cfs Feb. 3, 1939 (gage height, 29.35 ft, from floodmarks); minimum, 0.01 cfs Sept. 8, 1957; minimum gage height, 0.06 ft Sept. 21, 23, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	156	656	713	523	1,029	799	441	350	290	49.9	6.68	43.6	416
1952	3.31	241	815	971	374	866	510	494	56.9	44.9	17.4	2.18	368
1953	.63	4.79	64.2	747	370	688	352	265	71.5	104	4.15	1.53	223
1954	.37	.90	2.03	97.2	35.3	308	224	252	36.3	140	207	138	121
1955	92.3	89.2	359	399	1,043	1,466	387	247	48.3	44.1	20.7	2.04	347
1956	2.36	3.88	8.02	94.8	1,205	1,142	728	151	165	40.8	37.8	56.9	299
1957	14.0	9.31	712	756	694	371	311	33.9	8.00	5.21	5.05	12.8	240
1958	28.7	134	446	342	825	655	1,082	1,003	47.7	189	117	11.6	387
1959	2.85	29.8	63.5	361	378	198	651	171	22.7	11.4	7.96	1.77	156
1960	3.42	52.8	158	319	692	438	240	169	71.5	222	24.8	4.64	198

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.70	2.86	3.21	2.35	4.19	3.60	1.92	1.49	1.26	0.22	0.03	0.19	22.02
1952	.01	1.05	3.67	4.37	1.58	3.90	2.22	2.22	.25	.20	.08	.009	19.56
1953	.003	.02	.29	3.36	1.50	3.10	1.53	1.19	.31	.47	.02	.007	11.80
1954	.002	.004	.009	.44	.14	1.39	.97	1.15	.16	.63	.95	.60	6.40
1955	.42	.39	1.62	1.80	4.24	6.60	1.69	1.11	.21	.20	.09	.009	18.38
1956	.01	.02	.04	.43	5.08	5.14	3.17	.68	.72	.18	.17	.25	15.89
1957	.06	.04	3.21	3.31	2.82	1.67	1.35	.15	.03	.02	.01	.06	12.73
1958	.12	.58	2.01	1.54	2.54	2.95	4.63	4.52	.21	.85	.53	.05	20.53
1959	.01	.13	.29	1.63	1.54	.89	2.84	.77	.10	.05	.04	.008	8.30
1960	.02	.23	.71	1.44	2.91	1.97	1.04	.76	.31	1.00	.11	.02	10.52

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	545	28.89
1951	1205	9,910	Feb. 2, 1951	1.5	416	1.62	22.02	377	19.98
1952	1235	6,710	Mar. 23, 1952	1.0	368	1.44	19.56	285	15.14
1953	1275, 1555	3,470	Jan. 9, 1953	.4	223	.871	11.80	217	11.50
1954	1355	2,210	May 8, 1954	.2	121	1.475	6.40	166	8.82
1955	1365	7,160	Mar. 6, 1955	1.1	347	1.36	18.38	302	16.02
1956	1435	6,650	Mar. 15, 1956	.2	299	1.17	15.89	360	19.13
1957	1505	7,700	Dec. 15, 1956	.01	240	.938	12.73	229	12.13
1958	1555	5,760	Apr. 28, 1958	2.7	387	1.51	20.53	344	18.25
1959	1625	2,780	Apr. 14, 1959	.1	156	.609	8.30	166	8.83
1960	1705	3,540	Feb. 26, 1960	.3	198	.773	10.52	-	-

2060. Ohio River at Huntington, W. Va.

Location.--Lat 38°24'48", long 82°30'02", on right bank at lock 28 at Sybene, Lawrence County, Ohio, 0.1 mile upstream from Fourpole Creek, 3.0 miles downstream from Symmes Creek, and at mile 311.6.

Drainage area.--55,900 sq mi, approximately.

Records available.--August 1934 to September 1960. Gage-height records collected at same site since 1913 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 490.263 ft above mean sea level, Sandy Hook datum. Prior to July 8, 1942, at datum 1.737 ft higher. Auxiliary water-stage recorder 4.7 miles upstream from base gage, on left bank at foot of 24th Street, Huntington, Cabell County, 1.5 miles downstream from Guyandotte River.

Average discharge.--26 years (1934-60), 77,580 cfs.

Extremes.--1934-60: Maximum discharge, 654,000 cfs Jan. 28, 1937; maximum gage height, 69.45 ft Jan. 27, 1937, present datum; maximum gage height at auxiliary gage, 70.75 ft Jan. 27, 1937, present datum; minimum daily discharge, 3,200 cfs Sept. 6, 13, Nov. 2, 1934, Oct. 3, 1935, Oct. 1, 1937.

Remarks.--Flow partly regulated by dams and reservoirs upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24,490	83,760	177,400	171,400	206,200	175,000	167,400	82,190	74,340	40,490	11,890	11,150	101,500
1952	9,252	41,500	110,400	226,100	162,800	161,200	127,600	116,300	30,200	16,820	16,350	10,200	85,670
1953	7,836	15,690	40,760	105,000	104,200	121,300	109,600	107,500	56,350	21,340	14,000	9,817	59,200
1954	6,377	7,781	21,050	51,360	51,940	114,200	109,000	70,300	35,210	31,890	33,630	14,460	45,600
1955	84,790	39,310	83,960	108,600	158,000	284,100	90,680	51,070	32,320	20,130	23,630	9,392	82,050
1956	21,770	47,120	36,010	26,260	219,400	229,900	169,500	134,500	97,560	71,930	79,430	43,540	97,510
1957	21,840	28,020	110,900	119,500	178,600	97,680	182,300	54,350	33,380	29,420	9,968	13,810	72,540
1958	16,260	30,820	118,700	87,710	79,320	116,200	145,600	177,800	49,690	109,900	96,450	36,720	99,930
1959	20,520	33,530	45,530	144,300	163,300	112,900	127,100	84,380	35,570	20,080	18,490	11,900	67,360
1960	53,820	59,000	118,000	132,600	127,000	83,480	167,300	87,290	47,830	23,600	21,810	19,610	76,540

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	103,600	25.17
1951	1205	431,000	Dec. 9, 1950	5,280	101,500	1.82	24.66	91,030	22.12
1952	1235	459,000	Jan. 30, 1952	4,440	85,670	1.53	20.87	77,540	19.88
1953	1275	209,000	Mar. 27, 1953	-	59,200	1.06	14.37	56,750	13.78
1954	1335	225,000	Mar. 4, 1954	3,370	45,600	.816	11.08	60,190	14.62
1955	1385	504,000	Mar. 7, 1955	5,560	82,050	1.47	19.93	73,270	17.80
1956	1435	367,000	Mar. 15, 1956	3,260	97,510	1.74	23.73	102,300	24.90
1957	1505	346,000	Feb. 11, 1957	-	72,540	1.30	17.63	72,960	17.74
1958	1555	414,000	May 9, 1958	-	88,930	1.59	21.62	83,130	20.20
1959	1625	444,000	Jan. 24, 1959	-	67,360	1.21	16.36	76,910	18.68
1960	1705	351,000	Apr. 3, 1960	9,120	76,540	1.37	18.63	-	-

* Not previously published.

Note.--Figures of monthly discharge in cubic feet per second per square mile and runoff in inches, previously published in water-supply papers, may be subject to considerable error because of regulation by several reservoirs upstream. Those figures should not be used.

TWELVEPOLE CREEK BASIN

2070. Twelvepole Creek at Wayne, W. Va.

Location.--Lat 38°13'05", long 82°26'55", on right bank at bridge on State Highway 37 at Wayne, Wayne County, three-quarters of a mile downstream from confluence of East and West Forks.

Drainage area.--291 sq mi.

Records available.--July 1915 to September 1922 (gage heights only, October 1917 to September 1922), October 1928 to September 1931, August 1946 to September 1954, October 1955 to September 1960. Gage-height records collected at same site since 1924 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 576.53 ft (revised) above mean sea level (unadjusted). Prior to Sept. 30, 1931, chain gage and Oct. 1, 1931, to Aug. 28, 1957, wire-weight gage, at same site and datum.

Average discharge.--18 years (1915-17, 1928-31, 1946-54, 1955-60), 319 cfs.

Extremes.--1915-22, 1928-31, 1946-54, 1955-60: Maximum discharge, 13,000 cfs Feb. 2, 1951 (gage height, 27.0 ft); no flow Oct. 21-27, Nov. 2, 1953, Nov. 4, 1959. Maximum stage known, 31.03 ft Feb. 4, 1939, from reading by U.S. Weather Bureau (discharge, 22,000 cfs). Flood of June 30, 1928, reached a stage of 28.3 ft (reading by U.S. Weather Bureau, discharge, 14,000 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	144	750	713	628	1,477	927	509	522	337	55.9	30.1	13.4	512
1952	25.0	386	1,077	1,167	341	1,011	647	547	46.5	17.8	11.5	1.45	442
1953	600	9.65	49.9	655	424	740	319	376	89.5	82.7	16.9	2.01	230
1954	.18	.43	5.92	151	74.8	374	267	369	33.6	229	142	160	153
1955	-	-	-	-	-	-	-	-	-	-	-	-	-
1956	7.96	7.47	10.8	91.2	1,432	1,338	904	213	204	85.3	18.0	28.0	357
1957	19.7	29.4	681	901	1,035	473	532	75.4	14.7	35.1	12.0	36.3	316
1958	34.4	190	552	338	609	566	1,257	1,128	113	167	97.7	9.58	421
1959	3.89	19.4	51.3	369	406	245	699	297	72.3	44.0	9.89	3.94	183
1960	11.6	50.1	153	242	718	506	272	137	55.9	181	32.0	11.6	196

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.57	2.88	2.82	2.49	5.29	3.67	1.95	2.07	1.29	0.22	0.12	0.52	23.89
1952	.10	1.48	4.27	4.62	1.26	4.01	2.48	2.17	.18	.07	.05	.006	20.70
1953	.002	.04	.20	2.60	1.52	2.93	1.22	1.49	.34	.33	.07	.008	10.76
1954	.0007	.002	.02	.60	.27	1.48	1.02	1.54	.13	.91	.56	.61	7.14
1955	-	-	-	-	-	-	-	-	-	-	-	-	-
1956	.03	.03	.04	.36	5.31	5.30	3.46	.84	.78	.34	.07	.11	16.67
1957	.08	.11	2.70	3.57	3.70	1.88	2.04	.30	.06	.14	.05	.14	14.77
1958	.14	.73	2.19	1.34	2.18	2.24	4.82	4.47	.43	.66	.39	.04	19.63
1959	.02	.07	.20	1.46	1.45	.97	2.68	1.18	.28	.17	.04	.02	8.54
1960	.05	.19	.61	.96	2.66	2.01	1.04	.54	.21	.72	.13	.04	9.16

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	640	29.83
1951	1205	13,000	Feb. 2, 1951	5.4	512	1.76	23.89	503	23.47
1952	1235	10,000	Mar. 23, 1952	.2	442	1.52	20.70	322	15.09
1953	1275	3,400	Jan. 8, 1953	.2	230	.790	10.76	226	10.53
1954	1335	2,760	July 22, 1954	0	153	.526	7.14	-	-
1955	-	-	-	-	-	-	-	-	-
1956	1435	8,440	Mar. 14, 1956	1.4	357	1.23	16.67	416	19.46
1957	1505	7,280	Dec. 14, 1956	.2	316	1.09	14.77	320	14.94
1958	1555	7,040	May 8, 1958	1.3	421	1.45	19.63	361	16.86
1959	1625	2,800	Apr. 13, 1959	.5	183	.629	8.54	195	9.10
1960	1705	2,380	Feb. 26, 1960	1.0	196	.674	9.16	-	-

2075. Levisa Fork near Grundy, Va.

Location.--Lat 37°18'00", long 82°07'30", on right bank 20 ft downstream from wooden bridge to Appalachian Power Co. substation, 2 miles northwest of Grundy, Buchanan County, 2.7 miles downstream from Slate Creek, and 2.8 miles upstream from Poplar Creek.

Drainage area.--235 sq mi.

Records available.--October 1941 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 984.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Aug. 20, 1949, chain gage at bridge 20 ft upstream at datum 2.00 ft higher. Aug. 21, 1949, to July 28, 1958, water-stage recorder at site on left bank 30 ft downstream at datum 2.00 ft higher.

Average discharge.--19 years (1941-60), 270 cfs.

Extremes.--1941-60: Maximum discharge, 33,200 cfs Jan. 29, 1957 (gage height, 21.06 ft, present datum), from rating curve extended above 4,400 cfs by logarithmic plotting on basis of slope-area and contracted-opening measurements of peak flow; minimum observed, 0.2 cfs July 30, 1944 (gage height, 0.48 ft, site and datum then in use). Flood in March 1929 reached a stage of 18.0 ft, present datum (discharge, 21,800 cfs), from information by local residents.

Revisions.--The momentary maximum discharge for the water years 1944-46 and 1950 were revised in WSP 1505; the resulting revised records as summarized herewith supersede those published in WSP 1305:

Momentary maximum (cfs)	Date
18,000	Feb. 17, 1944
14,900	Feb. 17, 1945
17,400	Jan. 7, 1946
13,500	Feb. 2, 1950

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	41.8	141	563	306	680	747	642	436	226	63.8	25.7	27.3	323
1952	8.59	168	432	819	341	762	634	447	92.2	46.1	57.1	23.6	320
1953	9.30	59.2	175	341	573	580	345	890	139	120	14.2	2.74	270
1954	.877	4.51	16.6	243	108	510	222	383	116	59.5	25.1	10.5	142
1955	17.6	32.5	176	257	1,084	1,691	213	84.9	23.6	24.7	13.9	1.36	298
1956	9.15	26.4	41.7	94.9	938	772	903	272	129	226	51.5	54.0	290
1957	32.2	72.1	204	1,068	1,192	484	422	35.5	140	26.9	9.63	20.9	308
1958	27.1	144	439	302	477	454	909	977	137	168	609	26.1	389
1959	20.3	34.0	122	333	374	435	778	187	90.5	25.7	38.2	30.0	204
1960	162	325	536	424	614	571	355	98.8	50.6	119	40.1	21.2	276

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.21	0.67	2.77	1.50	3.01	3.67	3.05	2.14	1.07	0.31	0.13	0.13	18.66
1952	.04	.80	2.12	4.02	1.56	3.74	3.01	2.19	.44	.23	.28	.11	18.54
1953	.05	.28	.86	1.67	2.54	2.85	1.64	4.57	.66	.59	.07	.01	15.59
1954	.004	.02	.08	1.19	.48	2.50	1.05	1.88	.55	.29	.12	.05	8.21
1955	.09	.15	.86	1.28	4.80	8.30	1.01	.42	.11	.12	.07	.006	17.20
1956	.04	.12	.20	.47	4.50	3.79	4.28	1.54	.61	1.11	.25	.26	16.77
1957	.16	.34	1.00	5.23	5.28	2.38	2.01	.46	.66	.13	.05	.10	17.80
1958	.13	.68	2.16	1.49	2.11	2.22	4.32	4.80	.65	.82	2.99	.12	22.49
1959	.10	.16	.60	1.64	1.66	2.14	3.69	.92	.43	.13	.19	.14	11.80
1960	.79	1.54	2.63	2.08	2.82	2.80	1.69	.48	.24	.59	.20	.10	15.96

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	-	365	21.10
1951	1205	4,370	Feb. 1, 1951	6.2	323	1.37	18.66	311	17.97		
1952	1235	9,200	Apr. 28, 1952	4.5	320	1.36	18.54	289	16.77		
1953	1275	15,800	May 19, 1953	1.0	270	1.15	15.59	251	14.50		
1954	1335	2,680	Jan. 22, 1954	4	142	.604	8.21	180	9.21		
1955	1385	14,400	Feb. 27, 1955	.7	298	1.27	17.20	285	16.46		
1956	1435	11,800	Apr. 15, 1956	2.1	290	1.23	16.77	309	17.91		
1957	1505	33,200	Jan. 29, 1957	1.2	308	1.31	17.80	334	19.27		
1958	1555	17,700	Aug. 25, 1958	11	389	1.66	22.49	353	20.38		
1959	1625	6,420	Apr. 12, 1959	5.4	204	.868	11.80	275	15.90		
1960	1705	3,830	Nov. 28, 1959	5.6	278	1.17	15.96	-	-		

2080. Levisa Fork at Fishtrap, Ky.

Location.--Lat 37°25'45", long 82°23'20", on right bank 300 ft south of U.S. Highway 460, 700 ft downstream from Hurricane Creek, 1 mile southeast of Fishtrap, Pike County, and 6.1 miles upstream from Russell Fork.

Drainage area.--386 sq mi.

Records available.--February 1938 to September 1960.

Gage.--Staff and crest-stage gages. Datum of gage is 688.10 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers).

Average discharge.--22 years (1938-60), 440 cfs.

Extremes.--1938-60: Maximum discharge, 33,000 cfs Jan. 29, 1957 (gage height, 33.9 ft, from floodmark), from rating curve extended above 15,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 0.1 cfs Nov. 9, 1939.
Flood in 1929 reached a stage of about 26.5 ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	91.5	296	1,056	521	1,187	1,145	1,018	599	333	114	33.6	55.8	533
1952	23.0	383	953	1,420	657	1,310	928	689	151	74.0	166	34.1	566
1953	14.7	113	325	651	925	960	557	1,283	202	176	16.8	4.94	438
1954	1.25	5.49	24.6	473	158	796	356	625	158	83.3	40.4	16.5	230
1955	20.0	47.5	328	431	1,928	3,002	492	157	36.0	48.2	24.9	1.78	536
1956	12.7	35.8	45.5	140	1,774	1,592	1,774	468	311	648	154	78.1	580
1957	48.7	112	492	2,036	1,952	772	728	180	178	52.9	20.0	46.2	541
1958	46.2	220	664	556	898	912	1,462	1,823	285	511	1,168	69.8	719
1959	29.8	48.0	203	480	478	630	1,116	243	156	30.8	44.4	41.0	290
1960	191	516	791	675	867	800	539	138	67.1	173	76.8	46.8	405

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.27	0.86	3.15	1.56	3.20	3.42	2.94	1.79	0.96	0.34	0.10	0.16	18.75
1952	.07	1.11	2.79	4.24	1.84	3.91	2.68	2.06	.44	.22	.49	.10	19.95
1953	.04	.33	.97	1.94	2.65	2.87	1.61	3.83	.58	.55	.05	.01	15.39
1954	.004	.02	.07	1.41	.43	2.58	1.08	1.87	.46	.25	.12	.05	8.09
1955	.06	.14	.98	1.29	5.20	8.97	1.42	.47	.10	.14	.07	.005	18.84
1956	.04	.10	.14	.42	4.96	4.75	5.13	1.40	.90	1.93	.46	.23	20.46
1957	.15	.32	1.47	6.08	5.26	2.31	2.10	.48	.52	.16	.06	.13	19.04
1958	.14	.64	1.98	1.66	2.42	2.72	4.23	5.45	.82	1.53	3.49	.20	25.28
1959	.09	.14	.61	1.43	1.29	1.88	3.22	.73	.45	.09	.13	.12	10.18
1960	.57	1.49	2.56	2.02	2.42	2.59	1.56	.40	.19	.52	.23	.14	14.29

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	677	23.81
1951	1205	8,960	Dec. 4, 1950	8.0	533	1.38	18.75	524	18.44
1952	1235	11,300	Apr. 28, 1952	7.6	566	1.47	19.95	491	17.32
1953	1275	17,100	May 19, 1953	1.8	438	1.13	15.39	402	14.14
1954	1335	4,240	Jan. 16, 1954	.9	230	.596	8.09	260	9.18
1955	1585	19,500	Feb. 27, 1955	.3	536	1.39	18.84	510	17.94
1956	1435	16,100	Apr. 16, 1956	1.4	580	1.50	20.46	627	22.12
1957	1505	33,000	Jan. 29, 1957	1.6	541	1.40	19.04	565	19.86
1958	1555	16,700	May 7, 1958	12	719	1.86	25.28	664	23.36
1959	1625	9,140	Apr. 13, 1959	4.8	290	.751	10.18	392	13.76
1960	1705	7,270	Nov. 28, 1959	12	405	1.05	14.29	-	-

2085. Russell Fork at Hays1, Va.

Location.--Lat 37°12'25", long 82°17'45", on right bank 180 ft downstream from highway bridge at Hays1, Dickenson County, and 700 ft downstream from McClure River.

Drainage area.--286 sq mi.

Records available.--July 1926 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,237.45 ft above mean sea level, datum of 1929. Prior to Dec. 21, 1939, chain gage at highway bridge 180 ft upstream at same datum.

Average discharge.--34 years (1926-60), 324 cfs (revised).

Extremes.--1926-60: Maximum discharge, 46,600 cfs Jan. 29, 1957 (gage height, 23.17 ft), from rating curve extended above 12,000 cfs on basis of slope-area measurements at gage heights 13.1 and 23.17 ft; minimum observed, 0.2 cfs June 27, 28, 1936.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	32.3	141	641	350	798	796	665	438	408	53.7	8.96	29.3	360
1952	10.5	244	542	905	447	999	679	493	73.2	25.8	26.7	14.4	373
1953	5.62	49.6	152	312	633	581	310	1,063	215	128	8.81	3.55	287
1954	.984	2.46	11.1	221	70.9	499	210	371	176	58.3	23.0	10.1	139
1955	12.0	30.7	174	172	1,172	2,331	265	110	22.6	46.9	36.8	2.52	361
1956	11.0	23.9	37.3	84.1	1,067	841	1,137	305	154	342	89.5	82.3	344
1957	23.0	93.6	255	1,456	1,362	514	547	95.2	146	22.6	10.6	25.4	373
1958	21.6	135	415	398	565	532	894	1,429	67.9	202	498	31.2	433
1959	18.5	25.8	108	350	286	455	802	242	108	27.0	34.1	28.9	206
1960	170	469	630	468	743	694	383	95.0	56.0	208	72.1	67.9	337

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.13	0.55	2.58	1.41	2.90	3.20	2.60	1.76	1.60	0.22	0.04	0.11	17.10
1952	.04	.95	2.19	3.64	1.68	4.02	2.64	1.98	.29	.10	.11	.06	17.70
1953	.02	.19	.61	1.28	2.30	2.34	1.20	4.29	.84	.52	.04	.01	13.62
1954	.004	.01	.04	.89	.26	2.01	.82	1.50	.69	.24	.09	.04	6.59
1955	.05	.12	.70	.69	4.27	9.40	1.03	.44	.09	.19	.15	.01	17.14
1956	.04	.09	.15	.34	4.02	3.39	4.44	1.23	.60	1.38	.36	.32	16.36
1957	.09	.36	1.03	5.87	4.96	2.08	2.13	.38	.57	.09	.04	.10	17.70
1958	.09	.53	1.67	1.60	2.06	2.14	3.49	5.76	.26	.81	2.01	.12	20.54
1959	.07	.10	.44	1.41	1.04	1.84	3.13	.98	.42	.11	.14	.11	9.79
1960	.68	1.83	2.54	1.89	2.80	2.80	1.49	.38	.22	.84	.29	.27	16.03

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	423	20.05
1951	1205	10,500	Dec. 7, 1950	3.5	360	1.26	17.10	359	17.02
1952	1235	14,500	Mar. 23, 1952	2.3	373	1.30	17.70	324	15.34
1953	1355	17,800	May 19, 1953	1.6	287	1.00	13.62	271	12.85
1954	1335	2,820	Jan. 22, May 15	.6	139	1.486	6.59	156	7.41
1955	1385	23,100	Mar. 6, 1955	1.1	361	1.26	17.14	349	16.55
1956	1435	22,200	Apr. 15, 1956	3.2	344	1.20	16.36	369	17.56
1957	1505	46,600	Jan. 29, 1957	1.5	373	1.30	17.70	390	18.51
1958	1555	24,400	May 6, 1958	6.0	433	1.51	20.54	398	18.86
1959	1625	12,200	Apr. 12, 1959	2.4	206	.720	9.79	300	14.23
1960	1705	12,500	Nov. 28, 1959	13	337	1.18	16.03	-	-

2090. Pound River near Haysi, Va.

Location.--Lat 37°12'50", long 82°22'50", on left bank 0.2 mile downstream from Cranesnest River, 0.8 mile upstream from Twin Branch, and 4.7 miles west of Haysi, Dickenson County.

Drainage area.--212 sq mi. At site used prior to December 1939, 217 sq mi.

Records available.--July 1926 to September 1960 (prior to December 1939, flow of Twin Branch included). Monthly discharges only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 1,279.91 ft above mean sea level, unadjusted (levels by Corps of Engineers). July 18, 1926, to Feb. 3, 1939, chain gage at footbridge 0.8 mile downstream at different datum.

Average discharge.--34 years (1926-60), 263 cfs (revised).

Extremes.--1926-60: Maximum discharge, about 30,000 cfs Mar. 23, 1929 (gage height, 16.5 ft, from floodmarks, site and datum then in use); minimum, less than 0.1 cfs on several days in September 1932.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	33.5	157	546	325	691	589	491	349	268	74.2	11.1	33.6	295
1952	10.8	321	639	816	359	723	399	297	80.2	22.9	48.4	16.8	312
1953	6.95	75.9	196	380	497	477	235	821	96.7	63.4	6.79	4.06	238
1954	1.00	2.66	14.8	327	49.1	367	155	269	54.8	87.9	20.2	9.10	114
1955	6.58	17.2	192	163	1,034	1,761	265	91.2	14.2	49.5	19.4	2.17	300
1956	13.9	20.9	27.1	80.6	1,104	842	917	237	212	362	69.0	62.6	325
1957	19.5	76.1	293	1,189	1,118	422	484	86.9	150	32.4	12.1	38.1	322
1958	32.5	180	473	265	483	930	892	58.7	137	203	22.3	346	
1959	19.7	24.0	103	339	282	322	572	154	114	38.5	35.7	27.2	168
1960	115	444	504	443	640	501	330	89.9	35.6	141	35.6	66.1	277

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.18	0.83	2.97	1.76	3.40	3.20	2.59	1.90	1.41	0.40	0.06	0.18	18.86
1952	.06	1.68	3.47	4.44	1.82	3.93	2.10	1.61	.42	.12	.28	.09	20.00
1953	.04	.40	1.07	2.06	2.44	2.59	1.24	4.46	.51	.34	.04	.02	15.21
1954	.005	.01	.08	1.78	.24	1.99	.82	1.46	.29	.48	.11	.05	7.31
1955	.05	.09	1.04	.99	5.06	9.58	1.40	.50	.07	.27	.11	.01	19.19
1956	.08	.11	.15	.44	5.62	4.56	4.83	1.29	1.12	1.97	.37	.33	20.89
1957	.11	.41	1.59	6.47	5.49	2.29	2.54	.47	.79	.18	.07	.20	120.61
1958	.16	.95	2.57	1.44	2.37	2.63	4.90	4.65	.31	.74	1.10	.12	22.16
1959	.11	.13	.56	1.84	1.38	1.75	3.01	.84	.60	.21	.19	.14	10.78
1960	.62	2.34	2.74	2.41	3.26	2.72	1.74	.49	.19	.77	.19	.35	17.82

† Corrected.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	-	-
1951	1205	7,620	Dec. 7, 1950	5.0	295	1.39	18.86	335	21.45	
1952	1235	7,620	Jan. 22, 1952	3.5	312	1.47	20.00	254	16.30	
1953	1275	10,500	May 19, 1953	1.0	238	1.12	15.21	216	13.79	
1954	1335	3,150	Jan. 16, 1954	.8	114	.536	7.31	131	6.40	
1955	1385	11,000	Mar. 16, 1955	.9	300	1.42	19.19	286	18.35	
1956	1435	12,300	Apr. 16, 1956	4.6	325	1.53	20.89	353	22.66	
1957	1505	27,300	Jan. 29, 1957	1.0	322	1.52	†20.61	347	22.20	
1958	1555	9,680	May 6, 1958	13	346	1.65	22.16	301	19.26	
1959	1625	6,730	Jan. 22, 1959	5.6	168	.792	10.78	245	15.66	
1960	1705	7,250	Nov. 26, 1959	10	277	1.31	17.82	-	-	

† Corrected.

2095. Levisa Fork at Pikeville, Ky.

Location.--Lat 37°28'35", long 82°31'05", on left bank at foot of Huffman Avenue in Pikeville, Pike County, 150 ft upstream from Lower Chole Creek, 0.2 mile upstream from bridge on U.S. Highway 119, 0.5 mile upstream from Ferguson Creek, and 7.6 miles downstream from Shelby Creek.

Drainage area.--1,237 sq mi, includes that of Lower Chole Creek.

Records available.--October 1937 to September 1960. Gage-height records collected in this vicinity since 1907 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 633.18 ft above mean sea level, unadjusted. Prior to Sept. 23, 1944, chain or wire-weight gage at site 0.2 mile downstream at datum 1.0 ft higher. Sept. 23, 1944, to Sept. 30, 1952, water-stage recorder a quarter of a mile downstream at present datum.

Average discharge.--23 years (1937-60), 1,355 cfs.

Extremes.--1937-60: Maximum discharge, 85,500 cfs Jan. 30, 1957 (gage height, 52.72 ft), from rating curve extended above 45,000 cfs on basis of slope-area measurement of peak flow; minimum, 1.5 cfs Oct. 21, 22, 1953.

Flood in February 1862 reached a stage of about 52 ft. Flood in January 1918 reached a stage of 44.7 ft, from floodmark.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	222	832	3,054	1,620	3,955	3,214	2,763	1,945	1,347	328	72.1	247	1,618
1952	71.9	1,457	3,127	4,518	2,085	4,253	2,676	1,886	499	152	326	83.2	1,767
1953	30.0	335	914	1,807	2,684	2,656	1,404	3,940	632	454	57.9	25.8	1,240
1954	5.26	22.4	83.6	1,403	350	1,846	908	1,552	410	267	125	57.7	590
1955	44.2	105	806	1,076	5,174	10,180	1,426	505	95.6	190	105	6.77	1,628
1956	41.3	104	128	345	5,368	4,806	5,140	1,291	857	1,683	563	290	1,699
1957	126	318	1,436	6,107	6,527	2,527	2,677	494	540	156	56.0	122	1,726
1958	123	629	1,949	1,590	2,762	2,904	4,752	5,988	503	1,002	2,294	162	2,055
1959	72.8	113	495	1,617	1,545	1,847	3,454	819	487	111	136	128	895
1960	545	1,985	2,603	2,120	3,277	2,913	1,759	584	215	697	206	213	1,404

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.21	0.75	2.85	1.51	3.33	3.00	2.49	1.81	1.22	0.31	0.07	0.22	17.77
1952	.07	1.31	2.91	4.21	1.82	3.96	2.41	1.76	.45	.15	.30	.08	19.43
1953	.03	.30	.85	1.68	2.26	2.48	1.27	3.67	.57	.42	.05	.02	13.60
1954	.0005	.02	.08	1.31	.29	1.72	.82	1.45	.37	.25	.12	.05	6.48
1955	.04	.09	.75	1.00	4.36	9.49	1.29	.47	.09	.18	.10	.006	17.87
1956	.04	.09	.12	.32	4.68	4.48	4.64	1.20	.77	1.57	.52	.26	18.69
1957	.12	.29	1.34	5.69	5.49	2.36	2.41	1.46	.49	.13	.05	.11	18.94
1958	.11	.57	1.82	1.48	2.33	2.71	4.29	5.58	.45	.93	2.14	.15	22.56
1959	.07	.10	.46	1.51	1.30	1.72	3.12	.76	.44	.10	.13	.12	9.83
1960	.51	1.79	2.43	1.98	2.86	2.72	1.59	.36	.19	.65	.19	.19	15.46

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,955	21.45
1951	1205	23,800	Feb. 2, 1951	30	1,618	1.31	17.77	1,663	18.25
1952	1235	28,900	Mar. 23, 1952	29	1,767	1.43	19.43	1,484	16.32
1953	1275	40,900	May 20, 1953	8.1	1,240	1.00	13.60	1,142	12.52
1954	1335	11,400	Jan. 23, 1954	2.0	590	.477	6.48	662	7.26
1955	1385	43,100	Mar. 7, 1955	3.2	1,628	1.32	17.87	1,570	17.24
1956	1435	45,200	Apr. 16, 1956	5.9	1,699	1.37	18.69	1,835	20.19
1957	1505	85,500	Jan. 30, 1957	6.2	1,726	1.40	18.94	1,794	19.69
1958	1555	53,900	May 7, 1958	36	2,055	1.66	22.56	1,865	20.69
1959	1625	20,400	Apr. 13, 1959	15	895	.724	9.83	1,268	13.93
1960	1705	21,700	Nov. 28, 1959	27	1,404	1.14	15.46	-	-

BIG SANDY RIVER BASIN

2100. Johns Creek near Meta, Ky.

Location--Lat 37°33'50", long 82°27'20", on left bank 100 ft upstream from Ford Branch, 1,200 ft upstream from U.S. Highway 119 bridge, 0.9 mile upstream from Raccoon Creek, and 1.1 miles southwest of Meta, Pike County.

Drainage area--55.8 sq mi (revised).

Records available--May 1941 to September 1960.

Gage--Water-stage recorder. Datum of gage is 717.66 ft above mean sea level, unadjusted.

Average discharge--19 years (1941-60), 66.3 cfs.

Extremes--1941-60: Maximum discharge, 4,680 cfs Jan. 29, 1957 (gage height, 14.54 ft), from rating curve extended above 1,900 cfs on basis of contracted-opening measurement of peak flow; no flow at times in many years.

Flood in 1939 reached a stage of 13.6 ft, from floodmarks 600 ft downstream.

Remarks--Some regulation at low flow by small mill three-quarters of a mile upstream from station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	21.8	48.1	160	83.5	224	147	113	74.2	44.2	8.17	2.24	12.1	77.3
1952	4.46	73.5	181	234	132	197	103	74.7	42.3	8.07	19.2	1.80	89.3
1953	1.68	12.8	30.6	120	113	133	43.8	71.6	9.32	11.9	4.10	.63	45.7
1954	0	23	2.92	58.8	17.5	97.1	43.9	56.9	5.92	2.26	4.37	1.95	24.5
1955	1.08	4.80	44.1	58.5	329	489	101	24.0	5.31	3.60	1.64	.01	87.2
1956	1.18	2.13	3.70	13.2	283	380	279	42.6	40.9	136	11.4	3.53	98.9
1957	4.97	10.8	109	325	284	108	135	8.02	4.44	4.35	2.66	6.67	82.4
1958	2.61	16.9	83.9	75.9	136	155	206	222	21.6	130	32.5	2.55	90.3
1959	3.85	6.35	16.1	68.1	60.8	66.2	151	25.8	43.7	2.13	.96	.36	36.8
1960	6.58	67.3	60.9	91.5	173	137	56.8	7.89	3.22	19.9	4.69	3.83	52.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.45	0.96	3.32	1.73	4.18	3.03	2.26	1.53	0.88	0.17	0.05	0.24	18.80
1952	.09	1.47	3.73	4.83	2.55	4.08	2.05	1.54	.85	.17	.40	.04	21.80
1953	.03	.26	.63	2.47	2.11	2.74	.88	1.48	.19	.25	.08	.01	11.13
1954	0	.005	.06	1.21	.33	2.01	.88	1.18	.12	.05	.09	.04	5.98
1955	.02	.10	.91	1.21	6.13	10.10	2.03	.50	.11	.07	.03	.0002	21.21
1956	.02	.04	.08	.27	5.47	7.84	5.58	.88	.82	2.82	.23	.07	24.12
1957	.10	.22	2.24	6.71	5.30	2.24	2.69	.17	.09	.09	.05	.13	20.03
1958	.05	.34	1.73	1.57	2.53	3.20	4.13	4.58	.43	2.68	.67	.05	21.96
1959	.08	.13	.33	1.41	1.14	1.37	3.02	.53	.87	.04	.02	.007	8.95
1960	.14	1.35	1.26	1.89	3.34	2.82	1.14	.16	.06	.41	.10	.08	12.75

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	98.4	23.93
1951	1205	3,170	Feb. 1, 1951	0.3	77.3	1.39	18.80	79.6	19.36	
1952	1235	2,300	Mar. 22, 1952	.5	89.3	1.60	21.80	71.4	17.43	
1953	1275	900	Feb. 21, 1953	0	45.7	.819	11.13	42.2	10.28	
1954	1335	780	Jan. 16, 1954	0	24.5	.439	5.98	28.5	6.94	
1955	1385	4,480	Feb. 27, 1955	0	87.2	1.56	21.21	83.5	20.32	
1956	1435	3,480	Mar. 14, 1956	0	98.9	1.77	24.12	109	26.54	
1957	1505	4,680	Jan. 29, 1957	0	82.4	1.48	20.03	80.6	19.59	
1958	1555	3,240	Mar. 7, 1958	.6	90.3	1.62	21.96	83.8	20.38	
1959	1625	1,370	June 2, 1959	0	36.8	.659	8.95	45.8	11.16	
1960	1705	1,420	Nov. 28, 1959	.4	52.2	.935	12.75	-	-	

2110. Dewey Reservoir near Van Lear, Ky.

Location.--Lat 37°44'16", long 82°43'50", in intake structure of Dewey Dam on Johns Creek, 1.0 mile upstream from Daniels Creek and 2½ miles southeast of Van Lear, Johnson County.

Drainage area.--206 sq mi.

Records available.--June 1950 to September 1960 in reports of Geological Survey. November 1948 to September 1950 in files of Corps of Engineers.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to June 1, 1950, staff gage at site 3,100 ft upstream.

Extremes.--1950-60: Maximum contents, 81,400 acre-ft Mar. 9, 1955 (elevation, 682.30 ft); minimum, 5,050 acre-ft Dec. 1, 1955 (elevation, 634.45 ft).

Remarks.--Reservoir is formed by rolled earthfill dam with discharge tunnel, controlled by concrete gravity weir, crest elevation 644.5 ft, three gated sluices, and uncontrolled side channel concrete spillway. Dam completed July 22, 1949, and filling of pool began May 15, 1950. Conservation pool (elevation, 645.0 ft) first reached June 14, 1950. Total capacity at elevation 686.0 ft (spillway crest) is 93,300 acre-ft, of which 81,000 acre-ft above elevation 645.0 ft is reserved for flood control and 12,300 acre-ft below 645.0 ft is for conservation. Figures given herein represent total contents, of which 69 acre-ft below gate sill, elevation 608.25 ft is dead storage.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1950	-	-	-	-	-	-	-	*6,050	*14,100	*12,400	*12,300	12,600
1951	12,400	12,200	12,200	12,800	12,400	12,400	12,400	12,300	12,400	12,500	12,100	12,400
1952	12,400	12,400	12,400	23,600	12,300	12,300	17,100	12,300	12,500	12,000	12,100	11,600
1953	10,800	12,000	12,400	12,200	12,500	12,400	12,400	12,500	12,600	11,100	11,600	11,000
1954	9,990	9,390	11,700	12,400	12,500	15,000	17,400	17,400	16,800	16,200	16,400	16,300
1955	15,600	13,000	12,400	12,300	38,100	12,800	18,900	17,100	17,100	16,600	15,700	14,900
1956	5,360	5,060	5,180	5,420	7,500	12,300	17,400	17,600	17,300	17,400	17,100	16,900
1957	16,600	12,600	12,600	37,800	12,600	12,700	17,500	17,300	17,300	17,100	16,600	17,200
1958	17,200	12,800	12,500	12,800	13,500	13,300	23,200	17,600	17,300	17,600	17,300	17,000
1959	16,800	12,600	12,500	12,600	12,400	12,800	17,400	17,600	17,400	16,900	16,500	15,900
1960	16,200	12,800	12,600	12,400	12,600	12,500	17,600	17,500	17,500	17,300	17,400	17,100

* Not previously published.

Note.--Contents at 12 p.m.

BIG SANDY RIVER BASIN

2115. Johns Creek near Van Lear, Ky.

Location.--Lat 37°44'37", long 82°43'27", on right bank 100 ft upstream from Long Branch, 0.3 mile upstream from Daniels Creek, 0.7 mile (revised) downstream from Dewey Dam, and 2½ miles southeast of Van Lear, Johnson County.

Drainage area.--206 sq mi (revised).

Records available.--October 1939 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 597.28 ft above mean sea level (levels by Corps of Engineers). Prior to Aug. 14, 1940, staff gage at same site and datum.

Average discharge.--21 years (1939-60), 212 cfs (unadjusted).

Extremes.--1939-60: Maximum discharge, 8,350 cfs Jan. 9, 1946 (gage height, 26.50 ft), from rating curve extended above 3,100 cfs by logarithmic plotting; maximum gage height, 27.88 ft Jan. 30, 1957 (backwater from Levisa Fork); no flow Jan. 30 to Feb. 2, 1957, May 8, 9, 1958, due to closing of outflow gates at Dewey Reservoir.

Remarks.--Flow regulated by Dewey Reservoir. Records of water temperatures for the period April 1954 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	80.5	283	502	299	883	512	370	271	116	22.4	13.4	46.2	279
1952	18.8	270	662	724	625	775	352	428	105	34.1	25.9	9.99	336
1953	9.96	10.6	78.0	431	336	480	178	286	29.7	74.1	12.6	10.6	161
1954	12.3	10.2	9.36	105	53.8	191	77.8	121	25.9	11.9	11.9	12.0	53.7
1955	12.0	64.5	183	206	572	2,057	213	138	23.6	14.3	11.8	10.6	292
1956	15.3	10.1	8.71	27.3	1,000	1,054	1,067	145	56.5	311	37.3	12.4	320
1957	16.0	85.9	278	597	1,455	360	429	28.2	14.8	13.0	10.9	10.4	267
1958	11.1	138	286	246	568	518	769	919	67.7	321	112	15.4	330
1959	11.0	86.9	54.6	280	259	186	462	82.6	87.1	14.4	9.27	8.97	127
1960	8.61	203	207	267	644	479	108	48.9	13.8	196	16.5	13.3	182

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted a/					Observed		Adjusted a/
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date											
1950	-	-	-	-	-	-	-	-	-	-	-	335	352	23.17
1951	1205	3,180	Feb. 7, 1951	4.8	279	279	1.35	18.38	287	287	18.90	287	287	18.90
1952	1235	3,120	Mar. 26, 1952	6.9	336	335	1.63	22.13	264	264	17.48	264	264	17.48
1953	1275	1,730	May 22, 1953	7.0	161	160	.777	10.56	155	154	10.18	154	154	10.18
1954	1335	1,120	Mar. 4, 1954	8.3	53.7	61.1	.297	4.02	72.9	73.9	4.87	72.9	73.9	4.87
1955	1385	4,100	Mar. 22, 1955	4.6	292	290	1.41	19.13	285	275	18.12	285	275	18.12
1956	1435	4,490	Apr. 17, 1956	3.8	320	323	1.57	21.35	338	348	22.99	338	348	22.99
1957	1505	3,150	Feb. 14, 1957	0	267	267	1.30	17.60	271	271	17.86	271	271	17.86
1958	1555	2,510	May 11, 1958	0	330	330	1.60	21.72	306	306	20.17	306	306	20.17
1959	1625	2,380	Jan. 23, 1959	8.4	127	126	.612	8.28	149	150	9.85	149	150	9.85
1960	1705	2,170	Feb. 7, 1960	7.4	182	184	.893	12.16	-	-	-	-	-	-

a Adjusted for change of contents in Dewey Reservoir.

2120. Paint Creek at Staffordsville, Ky.

Location.--Lat 37°50'05", long 82°52'15", near center of span on downstream side of bridge on U.S. Highway 460, 100 ft downstream from Barnetts Creek, 0.8 mile upstream from Mudlick Creek, 1.7 miles west of Staffordsville, Johnson County, 4 miles upstream from Jenny Creek, and 7.6 miles upstream from mouth.

Drainage area.--103 sq mi (revised).

Records available.--March 1950 to September 1960.

Gage.--Wire-weight and crest-stage gages. Datum of gage is 600.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1944.

Average discharge.--10 years (1950-60), 120 cfs.

Extremes.--1950-60: Maximum discharge, 11,700 cfs Sept. 20, 1950, Mar. 22, 1952, from rating curve extended above 5,500 cfs by logarithmic plotting; maximum gage height, 24.11 ft Mar. 22, 1952; no flow Oct. 3, 5, 6, 1952, Sept. 18, 1955, Sept. 1-8, 1957. Flood of July 5, 1939, reached a stage of about 25 ft, from information furnished by local residents.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	80.0	286	246	276	562	314	164	150	52.5	23.5	9.73	10.7	179
1952	3.54	156	367	432	178	518	128	303	43.6	6.54	2.17	.737	179
1953	.55	8.59	45.9	262	159	302	130	190	23.7	14.9	6.10	.87	95.4
1954	.63	1.14	3.08	52.0	28.8	122	76.7	98.4	12.1	5.41	22.0	21.6	37.2
1955	8.16	23.1	128	121	450	688	61.5	31.3	20.7	10.3	5.14	2.59	128
1956	2.94	2.53	6.46	42.7	592	445	360	58.3	66.3	61.4	31.6	15.8	138
1957	8.68	21.0	359	475	420	177	250	35.6	21.7	10.5	2.68	14.2	148
1958	7.96	96.6	202	81.8	205	172	488	398	10.2	172	67.4	6.49	159
1959	3.43	14.4	19.5	132	133	64.8	288	44.6	46.3	8.87	4.48	3.72	62.7
1960	13.3	28.9	80.2	106	264	219	76.5	35.3	21.4	60.7	11.3	8.12	76.6

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.90	3.10	2.76	3.09	5.68	3.52	1.78	1.68	0.57	0.26	0.11	0.12	23.57
1952	.04	1.69	4.11	4.84	1.87	5.80	1.39	3.39	.47	.07	.02	.008	23.70
1953	.006	.09	.51	2.94	1.61	3.38	1.41	2.13	.26	.17	.07	.01	12.59
1954	.007	.01	.03	.58	.29	1.37	.83	1.10	.13	.06	.25	.23	4.89
1955	.09	.25	1.44	1.35	4.55	7.70	.67	.35	.22	.12	.06	.03	16.83
1956	.03	.03	.07	.48	6.20	4.98	3.90	.65	.72	.69	.35	.17	18.27
1957	.10	.23	4.02	5.32	4.25	1.99	2.71	.40	.24	.12	.03	.15	19.56
1958	.09	1.05	2.26	.92	2.08	1.93	5.28	4.46	.11	1.93	.75	.07	20.93
1959	.04	.16	.22	1.48	1.34	.73	3.12	.50	.50	.10	.05	.04	8.28
1960	.15	.31	.90	1.19	2.77	2.45	.83	.40	.23	.68	.13	.09	10.13

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	8,520	Feb. 1, 1951	0.5	179	1.74	23.57	172	22.65
1952	1235	11,700	Mar. 22, 1952	0.1	179	1.74	23.70	140	19.46
1953	1275	3,450	Jan. 8, 1953	0	95.4	.926	12.59	91.2	12.03
1954	1335	920	May 8, 1954	.2	37.2	.361	4.89	50.2	6.62
1955	1385	3,590	Mar. 22, 1955	0	128	1.24	16.83	115	15.18
1956	1435	7,360	Feb. 18, 1956	.8	138	1.34	18.27	170	22.49
1957	1505	7,990	Dec. 14, 1956	0	148	1.44	19.56	141	18.61
1958	1555	6,210	May 7, 1958	1.5	159	1.54	20.93	136	17.95
1959	1625	1,970	Apr. 11, 1959	1.2	62.7	.609	8.28	69.9	9.22
1960	1705	1,440	Feb. 11, 1960	1.6	76.6	.744	10.13	-	-

2125. Levisa Fork at Paintsville, Ky.

Location.--Lat 37°48'55", long 82°47'30", on left bank 700 ft downstream from bridge on State Highway 40 at Paintsville, Johnson County, and 900 ft downstream from Paint Creek.

Drainage area.--2,143 sq mi.

Records available.--June 1915 to September 1916, October 1916 to November 1920 (gage heights only), and October 1928 to September 1960. Monthly discharge only for October to December 1928, published in WSP 1305. Published as "at Thelma" prior to 1928.

Gage.--Water-stage recorder. Datum of gage is 566.84 ft above mean sea level, datum of 1929, supplementary adjustment of 1944. June 1, 1915, to Nov. 9, 1920, staff gage at site 3.4 miles downstream at different datum. Dec. 22, 1928, to Oct. 11, 1934, chain gage, Oct. 11, 1934, to Apr. 5, 1940, wire-weight gage, Apr. 6, 1940, to Oct. 23, 1953, water-stage recorder, and Oct. 24, 1953, to Oct. 19, 1954, staff gage, at bridge 400 ft upstream at present datum.

Average discharge.--33 years (1915-16, 1928-60), 2,340 cfs.

Extremes.--1915-16, 1928-60: Maximum discharge, 69,700 cfs Jan. 31, 1957 (gage height, 45.92 ft); minimum, 8.4 cfs July 23-25, 1930 (gage height, 1.06 ft).

Flood of Jan. 29, 1918, reached a stage of 40.7 ft, site and datum then in use (42.0 ft, present site and datum), from floodmarks, determined by Corps of Engineers. Flood in 1862 reached a stage of 46.6 ft, from levels to floodmark by corps of Engineers.

Remarks.--Slight regulation by Dewey Reservoir. Records of chemical analyses and water temperatures for the period October 1949 to March 1953 and suspended-sediment loads for the period October 1952 to April 1953 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	645	2,148	5,092	3,074	8,291	5,401	4,450	3,177	1,769	460	146	386	2,884
1952	140	2,506	6,018	7,816	4,271	7,796	4,022	3,686	1,003	283	431	126	3,183
1953	67.1	412	1,299	3,559	3,914	4,626	2,225	5,384	875	739	154	46.0	1,937
1954	24.0	40.1	117	1,789	658	2,844	1,461	2,188	592	330	249	134	872
1955	70.2	266	1,610	2,017	6,958	18,370	2,135	953	212	253	149	32.2	2,737
1956	201	110	156	354	9,053	8,499	8,340	1,825	1,190	2,315	778	365	2,734
1957	191	468	2,704	8,416	11,730	3,730	4,495	761	690	251	101	174	2,751
1958	172	956	2,958	2,262	4,330	4,525	8,070	9,412	729	1,862	2,720	268	3,187
1959	140	259	619	2,864	2,761	2,628	5,799	1,454	914	198	191	194	1,488
1960	650	2,388	3,736	3,508	5,994	5,102	2,671	708	369	1,619	369	326	2,276

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.35	1.12	2.74	1.65	4.03	2.91	2.32	1.71	0.92	0.25	0.08	0.20	18.28
1952	.08	1.30	3.24	4.20	2.15	4.19	2.09	1.98	.52	.15	.23	.07	20.20
1953	.04	.21	.70	1.91	1.90	2.49	1.16	2.90	.46	.40	.08	.02	12.27
1954	.01	.02	.06	.95	.32	1.53	.76	1.18	.31	.18	.13	.07	5.52
1955	.04	.14	.87	1.09	3.38	9.88	1.11	.50	.11	.13	.08	.02	17.35
1956	.11	.06	.08	.19	4.56	4.57	4.34	.98	.62	1.25	.42	.19	17.37
1957	.10	.24	1.45	4.53	5.70	2.01	2.34	.41	.36	.14	.05	.09	17.42
1958	.09	.50	1.59	1.22	2.10	2.43	4.20	5.06	.38	1.00	1.46	.14	20.17
1959	.08	.14	.33	1.54	1.34	1.41	5.02	.78	.48	.11	.10	.10	9.43
1960	.35	1.24	2.01	1.89	3.02	2.74	1.39	.38	.19	.87	.20	.17	14.45

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	3,464	21.94
1951	1205	31,700	Feb. 2, 1951	58	2,884	1.35	18.28	2,949	18.69
1952	1255	32,200	Mar. 24, 1952	57	3,193	1.49	20.20	2,605	16.53
1953	1275	33,400	May 21, 1953	30	1,937	.904	12.27	1,802	11.41
1954	1355	12,700	Jan. 17, 1954	21	872	.407	5.52	1,021	6.48
1955	1385	53,900	Mar. 1, 1955	20	2,737	1.28	17.35	2,612	16.55
1956	1435	42,500	Apr. 17, 1956	30	2,734	1.28	17.37	2,978	18.91
1957	1505	69,700	Jan. 31, 1957	23	2,751	1.28	17.42	2,811	17.81
1958	1555	53,200	May 8, 1958	66	3,187	1.49	20.17	2,928	18.54
1959	1625	21,200	Apr. 14, 1959	75	1,488	.694	9.43	1,971	12.48
1960	1705	18,900	Nov. 29, 1959	84	2,276	1.06	14.45	-	-

2130. Tug Fork at Litwar, W. Va.

Location.--Lat 37°29'05", long 81°50'40", on left bank 200 ft downstream from War Branch, 0.5 mile downstream from Litwar, McDowell County, 2.2 miles northwest of Iaeger, and 2.7 miles downstream from Dry Fork.

Drainage area.--502 sq mi. At site used prior to October 1942, 500 sq mi.

Records available.--May 1930 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 936.36 ft above mean sea level, datum of 1929. Prior to Oct. 16, 1942, chain or wire-weight gage at highway bridge 0.5 mile upstream at same datum.

Average discharge.--30 years (1930-60), 527 cfs.

Extremes.--1930-60: Maximum discharge, 35,700 cfs Jan. 29, 1957 (gage height, 21.60 ft); minimum observed, 11 cfs Oct. 3, 4, 7, 1930; minimum gage height, 0.99 ft Sept. 19, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	103	187	836	385	1,170	1,296	1,275	863	466	232	219	177	597
1952	80.3	267	724	1,456	913	1,311	1,084	1,019	241	120	121	72.3	618
1953	48.0	110	210	462	950	999	677	1,521	484	417	115	56.8	502
1954	41.2	42.2	63.4	457	242	756	686	976	251	730	229	97.0	383
1955	133	134	493	615	2,071	3,958	833	376	230	130	83.4	44.5	752
1956	57.0	82.3	76.3	146	1,404	1,448	1,882	681	428	437	153	138	573
1957	110	141	346	2,000	2,722	1,033	957	308	255	169	74.4	170	677
1958	126	318	944	682	1,198	1,450	1,772	2,031	331	468	1,037	215	881
1959	111	108	234	490	585	728	1,414	371	140	91.2	91.6	58.4	366
1960	162	422	640	710	998	1,037	899	338	198	257	123	77.4	487

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.24	0.42	1.82	0.88	2.43	2.88	2.83	1.98	1.04	0.53	0.50	0.39	16.14
1952	.18	.59	1.66	3.34	1.96	3.01	2.41	2.34	.54	.28	.28	.16	16.75
1953	.11	.25	.48	1.06	1.97	2.29	1.51	3.49	1.08	.96	.28	.13	13.59
1954	.09	.09	.15	1.05	.50	1.74	1.52	2.24	.56	1.68	.53	.22	10.37
1955	.30	.30	1.13	1.41	4.30	9.09	1.85	.86	.51	.30	.19	.10	20.34
1956	.13	.18	.18	.34	3.02	3.33	4.18	1.56	.95	1.00	.35	.31	15.53
1957	.25	.31	.80	4.59	5.65	2.37	2.13	.71	.57	.39	.17	.38	18.32
1958	.29	.71	2.17	1.57	2.49	3.33	3.94	4.66	.74	1.07	2.38	.48	23.83
1959	.26	.24	.54	1.13	1.21	1.67	3.14	.85	.31	.21	.21	.13	9.90
1960	.37	.94	1.47	1.63	2.14	2.38	2.00	.78	.44	.59	.29	.17	13.19

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1335	-	-	-	-	-	-	667	18.05
1951	1205, 1335	6,720	Dec. 8, 1950	69	597	1.19	16.14	592	15.99
1952	1235, 1335	12,700	Apr. 28, 1952	40	618	1.23	16.75	559	15.16
1953	1275, 1335	16,500	May 19, 1953	37	502	1.00	15.59	486	13.15
1954	1335	14,200	July 21, 1954	31	363	.763	10.37	435	11.77
1955	1385	23,000	Mar. 6, 1955	32	752	1.50	20.34	706	19.10
1956	1435	13,500	Apr. 16, 1956	32	573	1.14	15.53	605	16.40
1957	1505	35,700	Jan. 29, 1957	46	677	1.35	18.32	744	20.13
1958	1555	16,100	Aug. 25, 1958	59	881	1.75	23.83	802	21.70
1959	1625	8,700	Apr. 12, 1959	41	366	.729	9.90	431	11.64
1960	1705	4,660	Nov. 28, 1959	52	487	.970	13.19	-	-

BIG SANDY RIVER BASIN

2135. Panther Creek near Panther, W. Va.

Location.--Lat 37°26'45", long 81°52'15", on left bank 200 ft downstream from Cub Branch, 2.1 miles upstream from Trace Fork, and 3 miles southwest of Panther, McDowell County.

Drainage area.--30.8 sq mi.

Records available.--July 1946 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,050 ft (from topographic map).

Average discharge.--14 years (1946-60), 37.4 cfs.

Extremes.--1946-60: Maximum discharge, 4,900 cfs Jan. 29, 1957 (gage height, 9.50 ft); no flow at times during August and September 1955.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.78	10.8	61.5	31.2	92.7	85.7	73.2	44.7	9.38	4.10	4.40	6.98	35.4
1952	1.81	37.4	78.2	108	61.0	103	96.2	36.7	7.03	2.98	18.4	3.70	46.2
1953	.965	9.03	32.7	50.5	81.1	80.4	46.2	66.3	11.0	11.8	2.05	.423	32.5
1954	.136	.241	1.89	40.9	12.3	48.6	28.9	51.4	5.15	18.8	5.10	1.05	18.0
1955	1.18	2.95	34.5	35.8	169	280	29.9	10.1	2.32	2.73	.610	.217	46.8
1956	.95	2.07	3.01	10.1	111	120	138	34.7	31.7	58.9	10.2	6.83	43.6
1957	6.01	16.6	38.6	179	166	55.1	44.6	6.98	3.50	3.36	1.03	2.48	42.9
1958	2.13	12.3	42.2	39.3	77.0	98.9	129	136	26.2	19.2	72.5	3.86	54.8
1959	1.47	3.29	19.0	56.7	39.5	52.8	92.9	19.0	5.38	1.05	2.57	2.22	24.5
1960	13.0	44.7	58.5	52.7	78.0	65.2	37.3	9.77	2.66	11.8	9.86	4.29	32.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.14	0.39	2.30	1.17	3.13	3.21	2.65	1.67	0.34	0.15	0.16	0.25	15.56
1952	.07	1.36	2.93	4.03	2.14	3.86	3.48	1.38	.25	.11	.69	.13	20.43
1953	.04	.33	1.22	1.89	2.74	3.01	1.67	2.48	.40	.44	.08	.02	14.32
1954	.005	.009	.07	1.53	.41	1.82	1.05	1.92	.19	.70	.19	.04	7.93
1955	.04	.11	1.29	1.34	5.71	10.47	1.08	.38	.08	.10	.02	.008	20.63
1956	.04	.07	.11	.38	3.90	4.50	4.99	1.30	1.15	2.20	.38	.25	19.27
1957	.23	.60	1.44	6.69	5.61	2.06	1.62	.26	.13	.13	.04	.09	18.90
1958	.08	.45	1.58	1.47	2.60	3.70	4.66	5.09	.95	.72	2.72	.14	24.16
1959	.06	.12	.71	2.12	1.34	1.98	3.36	.71	.20	.04	.10	.08	10.82
1960	.49	1.62	2.19	1.97	2.73	2.44	1.35	.37	.10	.44	.37	.16	14.23

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	45.2	19.92
1951	1205	906	Feb. 1, 1951	0.5	35.4	1.15	15.66	38.8	17.09
1952	1235	1,260	Apr. 28, 1952	.5	46.2	1.50	20.43	40.0	17.66
1953	1275	1,260	May 19, 1953	.1	32.5	1.06	14.32	29.1	12.81
1954	1335	492	Jan. 22, 1954	.03	18.0	.584	7.93	21.1	9.29
1955	1385, 1505	4,200	Mar. 6, 1955	0	46.8	1.52	20.63	44.1	19.41
1956	1435	1,670	Apr. 15, 1956	.2	43.6	1.42	19.27	48.2	21.32
1957	1505	4,900	Jan. 29, 1957	.01	42.9	1.39	19.90	42.5	18.74
1958	1555	1,350	May 7, 1958	.6	54.8	1.78	24.16	52.0	22.94
1959	1625	1,860	Jan. 22, 1959	.2	24.5	.795	10.82	32.3	14.23
1960	1705	798	Nov. 28, 1959	1.0	32.2	1.05	14.23	-	-

2140. Tug Fork near Kermit, W. Va.

Location.--Lat 37°49'05", long 82°23'20", on right bank 2 miles upstream from Wolf Creek, 3 miles upstream from Kermit, Mingo County, and 3 miles downstream from Pigeon Creek.

Drainage area.--1,185 sq mi.

Records available.--July 1934 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 581.82 ft above mean sea level, datum of 1929.

Average discharge.--26 years (1934-60), 1,324 cfs.

Extremes.--1934-60: Maximum discharge, 61,300 cfs Jan. 30, 1957 (gage height, 43.88 ft, from high-water mark in well), from rating curve extended above 23,000 cfs on basis of slope-area measurement of peak flow; minimum, 23 cfs Sept. 14, 1939 (gage height, 1.13 ft).

Stage of about 43.3 ft was reached on unknown date prior to 1915.

Remarks.--Records of water temperatures for the period October 1946 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	310	921	2,826	1,316	3,754	3,044	2,728	1,496	973	390	268	353	1,516
1952	119	958	2,635	4,208	2,350	3,854	2,856	2,457	470	274	336	120	1,707
1953	69.6	229	531	1,785	2,371	2,658	1,414	2,783	932	747	162	85.4	1,141
1954	43.5	60.4	118	1,054	511	1,714	1,306	1,589	384	1,089	509	203	719
1955	179	250	1,179	1,723	4,564	9,845	1,626	814	328	209	144	66.2	1,734
1956	101	125	152	297	4,248	4,759	4,777	1,186	881	926	340	327	1,495
1957	227	388	1,472	5,777	6,438	2,319	2,357	555	369	291	136	262	1,687
1958	256	551	1,924	1,689	2,871	3,328	4,681	5,813	898	1,140	1,783	317	2,102
1959	178	198	456	1,361	1,526	1,582	3,192	875	459	149	158	95.5	846
1960	309	1,033	1,562	1,715	2,854	2,387	1,827	575	306	689	298	151	1,136

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.30	0.87	2.75	1.28	3.30	2.96	2.57	1.46	0.92	0.38	0.26	0.33	17.38
1952	.12	.90	2.56	4.09	2.14	3.75	2.50	2.39	.44	.27	.33	.11	19.60
1953	.07	.22	.52	1.72	2.08	2.59	1.33	2.71	.88	.73	.16	.08	13.09
1954	.04	.06	.12	1.03	.45	1.67	1.23	1.55	.36	1.06	.50	.19	8.26
1955	.17	.24	1.15	1.68	4.01	9.58	1.53	.79	.31	.20	.14	.06	19.86
1956	.10	.12	.15	.29	3.87	4.63	4.50	1.15	.83	.90	.33	.31	17.18
1957	.22	.37	1.43	5.62	5.66	2.26	2.22	.54	.35	.28	.13	.25	19.33
1958	.23	.52	1.87	1.84	2.52	3.24	4.41	5.66	.85	1.11	1.73	.30	24.08
1959	.17	.19	.44	1.32	1.34	1.54	3.01	.85	.43	.15	.15	.09	9.68
1960	.30	.97	1.52	1.67	2.60	2.32	1.72	.56	.29	.67	.29	.14	13.05

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	1205	-	-	-	-	-	-	1,937	22.18
1951	1205	27,200	Feb. 1, 1951	96	1,516	1.28	17.38	1,487	17.04
1952	1235	26,500	Mar. 23, 1952	64	1,707	1.44	19.60	1,464	16.83
1953	1275	19,500	May 20, 1953	49	1,141	.963	13.09	1,090	12.50
1954	1335	14,400	July 22, 1954	34	719	.607	8.26	836	9.60
1955	1385, 1505	44,600	Feb. 28, 1955	42	1,734	1.46	19.86	1,630	18.67
1956	1435, 1505	30,000	Apr. 15, 1956	69	1,495	1.26	17.18	1,639	18.83
1957	1505	61,300	Jan. 30, 1957	52	1,687	1.42	19.33	1,739	19.93
1958	1555	46,800	May 7, 1958	113	2,102	1.77	24.08	1,943	22.26
1959	1625	14,600	Apr. 13, 1959	44	846	.714	9.68	1,019	11.67
1960	1705	8,900	Nov. 29, 1959	92	1,136	.959	13.05	-	-

2150. Big Sandy River at Louisa, Ky.

Location.--Lat 38°10'16", long 82°38'05", on left bank 1.6 miles upstream from Blaine Creek, 4.3 miles northwest of Louisa, Lawrence County, and at mile 21.2.

Drainage area.--3,892 sq mi (revised) at Fullers (present base gage) and 3,880 sq mi (revised) at Louisa (present auxiliary gage and former base gage).

Records available.--October 1938 to September 1960. Monthly discharge only for October, November 1938, October 1947 to September 1948, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 512.81 ft above mean sea level, datum of 1929. Prior to Nov. 10, 1951, water-stage recorder or staff gages at lock 3, 5.0 miles upstream at datum 3.65 ft higher. Auxiliary water-stage recorder (formerly base gage) at site 5.0 miles upstream; prior to Nov. 10, 1951, auxiliary water-stage recorder or wire-weight gage at mouth of Blaine Creek, 1.6 miles downstream from present base gage.

Average discharge.--22 years (1938-60), 4,142 cfs.

Extremes.--1938-60: Maximum discharge, 89,400 cfs Mar. 2, 1955; maximum gage height, 46.37 ft May 8, 1958; minimum discharge not determined.

Flood of Apr. 3, 1908, reached a stage of 48.4 ft, former site and datum.

Revisions.--A period for the water year 1939 was revised in WSP 1505; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches
November 1938.....	1,460	-	0.42
Water year 1938-39.....	4,332	1.12	15.20

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1205	4,201	9,729	5,550	15,480	10,180	8,682	5,794	3,318	1,021	492	947	5,482
1952	306	4,178	10,940	13,830	7,664	13,900	7,741	8,189	1,923	682	808	264	5,885
1953	158	667	2,098	6,657	7,371	9,188	4,512	9,065	2,422	1,771	397	156	3,694
1954	85.3	101	253	3,246	1,412	5,267	3,389	4,456	1,097	1,567	912	539	1,870
1955	306	616	3,023	4,650	11,920	35,270	4,721	2,350	718	498	308	111	5,362
1956	316	245	317	620	16,580	14,590	14,840	3,593	2,540	3,730	1,410	767	4,903
1957	526	922	5,533	13,180	22,530	7,304	7,816	1,729	1,212	611	287	501	5,065
1958	459	1,761	5,990	4,477	7,998	8,630	14,780	17,560	2,400	4,224	5,075	742	6,172
1959	350	466	1,119	4,882	4,959	4,261	9,885	2,743	1,556	410	354	342	2,586
1960	906	3,112	5,490	5,333	9,827	8,435	5,283	1,585	802	2,710	706	489	3,704

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.36	1.21	2.89	1.65	4.15	3.02	2.50	1.72	0.95	0.30	0.15	0.27	19.17
1952	.09	1.20	3.24	4.10	2.12	4.12	2.22	2.45	.55	.20	.24	.08	20.59
1953	.05	.19	.62	1.97	1.97	2.72	1.29	2.69	.69	.52	.12	.04	12.87
1954	.02	.03	.07	.96	.38	1.56	.97	1.32	.31	.46	.27	.15	6.50
1955	.09	.18	.90	1.38	3.19	10.45	1.35	.70	.21	.15	.09	.03	18.72
1956	.09	.07	.09	.18	4.60	4.32	4.25	1.06	.73	1.10	.42	.22	17.13
1957	.16	.26	1.64	3.90	6.03	2.16	2.24	.51	.35	.18	.09	.14	17.66
1958	.14	.50	1.77	1.33	2.14	2.56	4.23	5.20	.69	1.25	1.50	.21	21.52
1959	.10	.13	.33	1.45	1.35	1.26	2.85	.81	.45	.12	.10	.10	9.01
1960	.27	.89	1.63	1.58	2.72	2.50	1.51	.47	.23	.80	.21	.14	12.95

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	6,722	23.53
1951	1205	55,900	Feb. 2, 1951	240	5,482	1.41	19.17	5,507	19.24
1952	1235	58,800	Mar. 24, 1952	155	5,885	1.51	20.59	4,856	16.92
1953	1275	44,100	May 21, 1953	102	5,694	.949	12.87	3,485	12.13
1954	1335	15,400	Jan. 24, 1954	75	1,870	.480	6.50	2,167	7.55
1955	1385	89,400	Mar. 2, 1955	76	5,362	1.38	18.72	5,103	17.80
1956	1435	62,100	Apr. 17, 1956	105	4,903	1.26	17.13	5,418	18.94
1957	1505	84,900	Jan. 31, 1957	120	5,065	1.30	17.66	5,167	18.01
1958	1555	77,900	May 8, 1958	221	6,172	1.59	21.52	5,642	19.67
1959	1625	27,100	Apr. 14, 1959	122	2,586	.664	9.01	3,222	11.24
1960	1705	23,300	Nov. 30, 1959	173	3,704	.952	12.95	-	-

2155. Blaine Creek at Yatesville, Ky.

Location.--Lat 38°08'40", long 82°41'05", on upstream wall near center of span of covered bridge at Yatesville, Lawrence County, 5 miles northwest of Louisa, 5.8 miles upstream from Cat Creek, and 10.2 miles downstream from Little Blaine Creek.

Drainage area.--217 sq mi.

Records available.--June 1915 to September 1918, October 1918 to January 1921 (gage heights only), January 1938 to September 1960.

Gage.--Wire-weight and crest-stage gages. Datum of gage is 561.57 ft above mean sea level, unadjusted. June 1, 1915, to Jan. 30, 1921, staff gage at site 50 ft upstream at datum 0.45 ft higher. Jan. 4, 1938, to Dec. 25, 1945, staff gage at site 130 ft upstream at present datum.

Average discharge.--25 years (1915-18, 1938-60), 251 cfs.

Extremes.--1915-18, 1938-60: Maximum discharge, 15,500 cfs Feb. 4, 1939 (gage height, 26.55 ft); minimum not determined.
Maximum stage known, 27.6 ft, present site and datum, on unknown date prior to 1915.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	153	636	538	556	1,170	618	312	316	109	24.6	16.6	17.5	367
1952	10.5	560	831	798	424	1,039	241	541	91.8	47.4	9.43	2.99	368
1953	2.15	13.5	85.5	498	242	552	244	305	48.9	39.7	7.05	.77	170
1954	.87	1.20	3.53	55.2	51.5	202	157	190	31.4	28.1	32.2	59.4	66.2
1955	13.8	56.3	285	254	771	1,453	133	86.7	26.1	22.4	8.08	1.33	287
1956	2.98	1.94	5.66	90.5	1,361	920	656	154	144	105	17.2	43.7	287
1957	18.5	23.3	791	719	733	383	542	86.2	40.4	12.2	7.06	13.4	278
1958	12.9	185	484	175	337	396	1,065	812	30.2	310	164	9.99	332
1959	5.02	21.2	33.1	335	278	153	646	171	92.3	16.9	8.95	4.98	146
1960	22.8	53.8	171	241	642	452	164	84.0	70.9	307	25.7	22.1	187

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.81	3.27	2.86	2.95	5.62	3.28	1.60	1.68	0.56	0.13	0.09	0.09	22.94
1952	.06	1.85	4.42	4.24	2.11	5.52	1.24	2.87	.47	.25	.05	.02	23.10
1953	.01	.07	.45	2.64	1.16	2.93	1.25	1.62	.25	.21	.04	.004	10.63
1954	.005	.006	.02	.28	.15	1.07	.81	1.01	.16	.15	.17	.31	4.14
1955	.07	.29	1.51	1.35	3.70	7.72	.68	.46	.13	.12	.04	.007	16.08
1956	.02	.01	.03	.48	6.76	4.89	3.38	.82	.74	.56	.09	.22	18.00
1957	.10	.12	4.20	3.82	3.52	2.03	2.79	.46	.21	.06	.04	.07	17.42
1958	.07	.95	2.57	1.93	1.62	2.10	5.48	4.31	.16	1.65	.87	.05	20.76
1959	.05	.11	.18	1.78	1.33	.81	3.32	.91	.47	.09	.05	.03	9.11
1960	.12	.28	.91	1.28	3.18	2.40	.84	.45	.36	1.63	.14	.11	11.71

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	550	34.40
1951	1205	10,200	Feb. 2, 1951	1.2	367	1.69	22.94	357	22.33
1952	1235	11,200	Mar. 23, 1952	.3	368	1.70	23.10	276	17.30
1953	1275	4,530	Jan. 9, 1953	.3	170	.783	10.63	162	10.14
1954	1335	1,710	May 8, 1954	-	66.2	.305	4.14	95.7	5.98
1955	1385	8,800	Mar. 6, 1955	.1	257	1.18	16.08	228	14.27
1956	1435	7,260	Feb. 19, 1956	.4	287	1.32	18.00	356	22.36
1957	1505	9,720	Dec. 15, 1956	.1	278	1.28	17.42	265	16.59
1958	1555	6,540	May 8, 1958	2.8	332	1.53	20.76	279	17.49
1959	1625	5,230	Apr. 11, 1959	1.1	146	.673	9.11	161	10.10
1960	1705	4,680	Feb. 26, 1960	4.8	187	.862	11.71	-	-

2160. Ohio River at Ashland, Ky.

Location.--Lat 38°27'23", long 82°36'27", on left bank at lock and dam 29 at Ashland, Boyd County, 2.8 miles downstream from Big Sandy River and at mile 319.9.

Drainage area.--60,750 sq mi, approximately.

Records available.--October 1938 to September 1960 (prior to October 1939 and since October 1952, no low-flow records).

Gage.--Staff gage. Datum of gage is 483.12 ft above mean sea level, Ohio River datum. Auxiliary staff gage on left bank at lock and dam 30, 19.5 miles downstream.

Average discharge.--13 years (1939-52), 83,550 cfs.

Extremes.--1938-60: Maximum discharge, 589,000 cfs Apr. 16, 1948; maximum gage height, 65.3 ft Apr. 17, 1948; minimum daily discharge determined, 3,760 cfs Oct. 2, 1946. Maximum stage known, 73.6 ft Jan. 27, 1937.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	27,070	91,040	192,500	178,400	226,000	192,400	183,300	91,600	81,290	40,950	12,440	12,240	110,000
1952	9,855	45,890	124,600	240,200	172,300	177,100	133,600	128,000	31,890	17,460	16,880	11,000	92,360
1953	-	-	-	112,500	113,400	133,300	116,600	118,100	\$59,700	-	-	-	-
1954	-	-	-	\$53,520	\$51,800	120,100	111,800	\$74,600	-	-	-	-	-
1955	-	-	\$85,320	\$116,500	\$169,500	\$21,700	\$94,830	\$53,870	-	-	-	-	-
1956	-	-	-	\$26,540	236,900	246,900	185,800	137,800	\$98,490	\$74,270	\$79,870	-	-
1957	-	-	117,800	132,700	200,100	103,200	186,800	56,440	-	-	-	-	-
1958	-	-	122,600	92,100	86,730	125,900	164,100	200,400	51,770	112,600	99,120	-	-
1959	-	-	44,810	143,900	164,700	114,800	136,400	88,560	-	-	-	-	-
1960	-	-	120,800	132,900	133,500	86,890	168,600	86,210	-	-	-	-	-

* Not previously published; partly estimated on basis of records for other main-stem stations and tributary inflow.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.51	1.67	3.65	3.39	3.87	3.65	3.37	1.74	1.49	0.78	0.24	0.22	24.58
1952	0.19	.84	2.37	4.56	3.06	3.36	2.45	2.43	.59	.33	.32	.20	20.70
1953	-	-	-	\$2.13	1.94	2.53	2.14	2.24	\$1.10	-	-	-	-
1954	-	-	-	\$1.02	\$4.89	2.28	2.05	\$1.42	-	-	-	-	-
1955	-	-	\$1.62	\$2.21	\$2.91	6.10	\$1.74	\$1.02	-	-	-	-	-
1956	-	-	-	\$4.50	4.21	4.69	3.41	2.61	\$1.81	\$1.41	\$1.52	-	-
1957	-	-	2.24	2.52	3.43	1.96	3.43	1.07	-	-	-	-	-
1958	-	-	2.33	1.75	1.49	2.39	3.01	3.80	.95	2.14	1.88	-	-
1959	-	-	.85	2.73	2.82	2.18	2.51	1.68	-	-	-	-	-
1960	-	-	2.29	2.52	2.37	1.65	3.10	1.64	-	-	-	-	-

* Not previously published; see footnote to preceding table.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	114,900	25.64
1951	1205	465,000	Dec. 10, 1950	4,780	110,000	1.81	24.58	99,090	22.15
1952	1235	483,000	Jan. 30, 1952	-	92,360	1.52	20.70	-	-
1953	1275	224,000	Mar. 27, 1953	-	-	-	-	-	-
1954	1335	235,000	Mar. 5, 1954	-	-	-	-	-	-
1955	1385	576,000	Mar. 8, 1955	-	-	-	-	-	-
1956	1435	416,000	Mar. 16, 1956	-	-	-	-	-	-
1957	1505	387,000	Feb. 12, 1957	-	-	-	-	-	-
1958	1555	500,000	May 9, 1958	-	-	-	-	-	-
1959	1625	392,000	Jan. 25, 1959	-	-	-	-	-	-
1960	1705	344,000	Apr. 3, 1960	-	-	-	-	-	-

2165. Little Sandy River near Grayson, Ky.

Location.--Lat 38°20'25", long 82°55'10", on downstream side of center pier of highway bridge, 0.3 mile upstream from Lower Stinson Creek, 1.3 miles downstream from U.S. Highway 60, and 1.7 miles northeast of Grayson, Carter County.

Drainage area.--402 sq mi (revised).

Records available.--April 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 557.95 ft above mean sea level, datum of 1929. Prior to Aug. 11, 1939, wire-weight gage at same site and datum. Since Apr. 6, 1948, supplementary wire-weight gage 1.4 miles upstream at same datum as base gage.

Average discharge.--22 years (1938-60), 471 cfs.

Extremes.--1938-60: Maximum discharge, 24,500 cfs Sept. 22, 1950; maximum gage height, 27.53 ft Sept. 22, 1950; minimum discharge observed, 1.5 cfs Oct. 12, 1953. Flood in February 1937 reached a stage of 25.0 ft, from floodmarks (discharge, 16,600 cfs).

Revisions.--The dates of the momentary maximum discharges for the water years 1943 and 1948 published in WSP 1305 have been revised to Dec. 30, 1942, and Apr. 13, 1948.

Remarks.--Records of chemical analyses for the period October 1953 to September 1954 are published in WSP 1350.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	256	1,059	350	1,479	2,296	1,269	628	707	172	56.4	47.0	19.6	735
1952	13.2	487	1,832	1,764	846	2,152	463	565	129	71.6	17.5	9.93	700
1953	6.16	178	884	752	364	1,158	709	644	65.7	69.8	64.0	5.48	330
1954	3.45	527	480	354	513	364	235	385	49.8	33.9	79.2	120	120
1955	61.1	130	536	488	1,478	2,688	344	265	70.1	214	34.0	8.86	523
1956	21.4	28.2	59.9	304	2,994	1,690	1,078	215	410	400	38.2	94.9	600
1957	51.8	85.8	1,441	1,300	1,278	580	962	174	47.7	21.6	12.1	22.5	494
1958	15.8	344	966	349	794	709	1,777	1,536	63.2	625	351	62.3	632
1959	30.3	55.6	131	797	602	289	975	159	70.1	23.9	11.4	8.49	260
1960	12.4	40.1	216	366	1,152	889	293	280	300	1,240	42.7	31.7	404

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.74	2.94	2.73	4.24	5.95	3.64	1.74	2.03	0.48	0.16	0.13	0.05	24.83
1952	.04	1.35	5.25	5.06	2.27	6.17	1.29	1.62	.36	.21	.05	.03	23.70
1953	.02	.05	.25	2.16	.94	3.32	1.97	1.85	.18	.20	.18	.01	11.13
1954	.01	.01	.03	.27	.13	1.04	.65	1.10	.14	.10	.23	.33	4.04
1955	.18	.36	1.54	1.40	3.83	7.71	.95	.76	.19	.61	.10	.02	17.65
1956	.06	.08	.17	.87	8.03	4.85	2.99	.62	1.14	1.15	.11	.26	20.33
1957	.15	.24	4.13	3.73	3.31	1.66	2.67	.50	.13	.06	.03	.06	16.67
1958	.05	.95	2.77	1.00	2.06	2.03	4.93	4.40	.18	1.79	1.01	.17	21.34
1959	.09	.15	.38	2.29	1.56	.83	2.70	.45	.19	.07	.03	.02	8.76
1960	.04	.11	.62	1.05	3.09	2.55	.61	.80	.83	3.56	.12	.09	13.67

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,061	35.84
1951	1205	9,780	Feb. 1, 1951	8.0	755	1.83	24.83	742	25.06
1952	1235	19,200	Mar. 23, 1952	2.8	700	1.74	23.70	513	17.38
1953	1275	8,210	Mar. 4, 1953	2.0	330	.821	11.13	322	10.86
1954	1335	2,560	Sept. 20, 1954	1.6	120	.299	4.04	180	6.07
1955	1385	13,500	Mar. 6, 1955	4.4	523	1.30	17.65	471	15.88
1956	1435	12,900	Feb. 18, 1956	8.0	600	1.49	20.33	725	24.54
1957	1505	11,100	Dec. 15, 1956	4.5	494	1.23	16.67	472	15.92
1958	1555	9,840	May 8, 1958	4.0	632	1.57	21.34	539	18.19
1959	1625	5,860	Jan. 22, 1959	1.9	260	.647	8.76	264	8.91
1960	1705	9,000	July 4, 1960	4.2	404	1.00	13.67	-	-

2168. Tygarts Creek at Olive Hill, Ky.

Location.--Lat 38°17'57", long 83°10'25", on downstream side of right pier of bridge on county road at Olive Hill, Carter County, 0.3 mile downstream from Henderson Branch and 0.9 mile upstream from Bens Run.

Drainage area.--59.6 sq mi.

Records available.--January 1957 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 739.18 ft above mean sea level, datum of 1929.

Extremes.--1957-60: Maximum discharge, 6,190 cfs July 3, 1960 (gage height, 12.32 ft); maximum gage height, 14.20 ft May 5, 1958; no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	141	164	83.4	169	66.2	4.65	0.34	0.21	0.39	-
1958	1.61	45.0	169	57.6	127	113	253	247	13.5	179	130	25.3	114
1959	5.64	29.8	47.4	196	121	59.4	127	19.2	7.50	6.92	1.3	.5	52.1
1960	1	10	45.9	89.2	151	135	32.2	24.9	44.3	177	3	10.6	60.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	2.72	2.86	1.61	3.17	1.28	0.09	0.006	0.004	0.007	-
1958	0.03	0.84	3.27	1.11	2.21	2.19	4.74	4.78	.25	3.47	2.51	.47	25.87
1959	.11	.56	.92	3.78	2.12	1.15	2.56	.37	.14	.13	.03	.009	11.88
1960	.02	.19	.89	1.72	2.73	2.61	.60	.48	.83	3.43	.06	.20	13.76

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1957	1505	2,790	Apr. 8, 1957	-	-	-	-	69.8	15.89
1958	1555	2,930	May 5, 1958	0	114	1.91	25.87	102	25.32
1959	1625	2,840	Jan. 21, 1959	-	52.1	.874	11.88	50.0	11.39
1960	1705	6,190	July 3, 1960	-	60.2	1.01	13.76	-	-

a Maximum during period January to September.

2170. Tygarts Creek near Greenup, Ky.

Location.--Lat 38°33'51", long 82°57'08", on downstream side of center pier of bridge on State Highway 7, 100 ft downstream from Lick Run, 0.4 mile (revised) upstream from White Oak Creek, and 6½ miles west of Greenup, Greenup County.

Drainage area.--242 sq mi (revised).

Records available.--August 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 547.14 ft above mean sea level, datum of 1929.

Average discharge.--20 years (1940-60), 297 cfs.

Extremes.--1940-60: Maximum discharge, 12,800 cfs Apr. 13, 1948 (gage height, 20.35 ft); no flow at times in several years.

Remarks.--Occasional regulation at low flow caused by withdrawal of water for cooling purposes by gas transmission plant above station. Records of water temperatures and suspended sediment loads for the period October 1956 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	147	611	620	1,083	1,370	792	426	398	102	20.0	55.7	24.9	465
1952	7.13	306	824	1,072	494	1,096	292	294	52.3	29.4	5.17	2.48	374
1953	1.73	12.4	67.0	322	206	779	389	334	32.5	19.5	35.6	1.31	184
1954	.35	.70	3.23	53.7	20.7	169	169	188	24.7	18.0	70.2	88.3	67.5
1955	29.7	102	347	363	1,035	1,344	312	374	188	122	33.2	2.31	351
1956	39.5	47.6	80.6	216	1,673	1,039	587	153	175	265	92.4	152	372
1957	5.03	135	859	692	700	318	724	328	37.9	6.05	2.84	6.00	318
1958	5.03	124	846	240	497	460	1,018	1,061	127	615	257	85.4	428
1959	27.5	66.1	138	686	431	186	420	84.0	40.2	16.0	5.20	1.77	174
1960	2.59	31.5	168	376	594	496	147	214	246	645	17.8	19.2	246

2180. Little Scioto River above Marion, Ohio

Location.--Lat 40°37'43", long 83°10'11", in NE¼ sec.7, T.5 S., R.15 E., on left bank at downstream side of Chesapeake and Ohio Railway bridge, 1 mile downstream from Rock Fork and 3½ miles northwest of Marion, Marion County.

Drainage area.--70.0 sq mi.

Records available.--January 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 909.43 ft above mean sea level, datum of 1929. Prior to June 17, 1940, staff gage at same site and datum.

Average discharge.--22 years (1938-60), 50.8 cfs.

Extremes.--1938-60: Maximum discharge, 5,160 cfs Jan. 22, 1959 (gage height, 8.73 ft), from rating curve extended above 3,900 cfs by logarithmic plotting; no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.90	33.8	131	173	183	130	90.0	26.3	4.64	2.19	0.13	0.07	64.4
1952	.10	2.48	112	305	115	140	127	16.2	2.95	.45	0	0	68.6
1953	0	0	.67	17.7	18.0	32.1	28.9	129	6.71	4.05	1.03	0	20.0
1954	0	0	1.50	29.7	29.8	29.7	114	23.3	41.9	1.91	1.68	.03	17.9
1955	2.70	1.18	7.95	32.8	115	204	30.5	6.09	1.23	3.82	1.75	.01	33.6
1956	.44	21.1	4.03	5.46	117	181	35.1	52.9	64.7	9.48	1.93	.24	45.6
1957	0	.13	2.25	23.1	61.1	30.0	318	110	88.6	36.2	1.66	54.8	59.8
1958	15.0	42.9	133	46.5	42.7	48.0	66.7	44.1	39.4	48.8	84.7	13.8	52.3
1959	5.65	18.7	24.6	382	213	95.7	80.7	79.8	11.6	2.10	.31	.10	75.6
1960	.46	2.20	38.4	69.9	93.0	37.4	59.8	10.9	37.8	3.72	1.14	.03	31.0

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.10	0.54	2.16	2.85	2.72	2.14	1.44	0.43	0.07	0.04	0.002	0.001	12.49
1952	.002	.04	1.84	5.03	1.77	2.31	2.02	.27	.05	.007	0	0	13.34
1953	0	0	.01	.29	.27	.53	.46	2.12	.11	.07	.02	0	3.88
1954	0	0	0	.02	.04	.49	1.82	.38	.67	.03	.01	.0005	3.46
1955	.04	.02	.13	.54	-1.71	3.36	.49	.10	.02	.08	.03	.0002	6.50
1956	.007	.34	.07	.09	2.73	2.99	.56	.87	1.03	.16	.03	.004	8.88
1957	0	.002	.04	.38	.91	.49	5.06	1.81	1.42	.60	.03	.87	11.61
1958	.25	.68	2.19	.77	.64	.79	1.06	.73	.63	.80	1.40	.22	10.16
1959	.09	.30	.40	6.30	3.17	1.58	1.28	1.31	.19	.03	.005	.002	14.66
1960	.007	.03	.63	1.48	1.43	.62	.95	.18	.60	.06	.02	.0005	6.01

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	90.0	17.46
1951	1205	-	Jan. 4, 1951	0	64.4	0.920	12.49	59.7	11.58
1952	1235	1,000	Jan. 27, 1952	0	68.6	.980	13.34	59.0	11.47
1953	1275	818	May 23, 1953	0	20.0	.286	3.88	19.9	3.87
1954	1335	1,180	June 17, 1954	0	17.9	.256	3.46	18.9	3.65
1955	1385	788	Mar. 5, 1955	0	33.6	.480	6.50	34.7	6.73
1956	1435	896	Mar. 8, 1956	0	45.6	.651	8.88	43.7	8.51
1957	1505	1,540	Apr. 5, 1957	0	59.8	.854	11.61	75.7	14.69
1958	1555	496	Aug. 11, 1958	3.0	52.3	.747	10.16	40.3	7.83
1959	1625	5,160	Jan. 22, 1959	0	75.6	1.08	14.66	75.0	14.54
1960	1705	446	Apr. 4, 1960	0	31.0	.443	6.01	-	-

2195. Scioto River near Prospect, Ohio

Location.--Lat 40°25'10", long 83°11'50", on downstream side of pier of Hoskins Bridge, 1½ miles upstream from Ottawa Creek, 2 miles south of Prospect, Marion County, and 2½ miles downstream from Patton Run.

Drainage area.--571 sq mi.

Records available.--July 1925 to October 1932, October 1939 to September 1960. Published as "at Prospect" 1925-32. Gage-height records collected in this vicinity since 1915 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 886.9 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers). July 24, 1925, to Oct. 31, 1932, chain gage at site 2½ miles upstream at datum 4.8 ft higher. Oct. 16 to Dec. 5, 1939, chain gage at present site and datum.

Average discharge.--28 years (1925-32, 1939-60), 455 cfs.

Extremes.--1925-32, 1939-60: Maximum discharge, 10,100 cfs Mar. 22, 1927, Jan. 21, 1959 (gage heights, 15.0 ft, from graph based on gage readings, site and datum then in use, 15.30 ft, respectively); minimum, 3.5 cfs Sept. 13, 1953. Maximum stage known, 21.1 ft Mar. 25, 1913, original site and datum (discharge, 27,000 cfs, computed by Franklin County Conservancy District).

Remarks.--Some diurnal fluctuation at low flow caused by powerplant above station. Records of suspended sediment loads for the period April 1951 to September 1953 and water temperatures for the period October 1952 to September 1953, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	252	521	1,288	1,425	1,687	992	853	364	166	48.4	17.4	14.7	630
1952	13.8	33.1	626	2,721	909	1,320	1,225	172	54.5	19.4	14.0	20.1	595
1953	13.6	17.0	38.7	344	223	471	235	1,075	74.0	62.8	28.9	10.6	217
1954	19.1	22.8	20.2	52.2	56.1	233	715	144	209	29.0	21.0	11.2	127
1955	45.8	23.4	62.9	282	908	1,747	254	78.3	34.4	44.5	47.9	18.7	293
1956	46.3	269	59.6	52.5	1,439	1,565	335	239	350	270	58.1	20.8	388
1957	17.5	19.7	54.5	271	367	303	2,771	832	640	646	29.2	350	522
1958	82.3	282	1,294	350	336	482	605	405	1,159	785	606	221	552
1959	81.3	206	178	2,151	1,871	805	675	601	108	72.3	27.2	27.5	560
1960	31.0	75.9	418	815	768	352	440	112	193	35.0	151	20.3	283

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.51	1.02	2.61	2.88	3.07	2.01	1.66	0.73	0.32	0.10	0.03	0.03	14.97
1952	.03	.06	1.27	5.50	1.72	2.66	2.40	.35	.11	.04	.03	.04	14.21
1953	.03	.03	.08	.69	.41	.95	.46	2.17	.14	.13	.06	.02	5.17
1954	.04	.04	.04	.10	.10	.47	1.40	.29	.41	.06	.04	.02	5.01
1955	.09	.05	.13	.57	1.66	3.53	.50	.16	.07	.09	.10	.04	6.99
1956	.09	.53	.12	.11	2.72	3.16	.65	.48	.68	.55	.12	.04	9.25
1957	.04	.04	.11	.55	.67	.61	5.41	1.68	1.25	1.30	.06	.68	12.40
1958	.17	.55	2.62	.71	.61	.97	1.18	.82	2.26	1.58	1.22	.43	13.12
1959	.16	.40	.36	4.35	3.42	1.63	1.32	1.21	.21	.15	.06	.05	13.32
1960	.06	.15	.84	1.65	1.44	.71	.86	.23	.38	.07	.30	.04	6.73

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	808	19.22
1951	1205	5,820	Dec. 5, 1950	12	630	1.10	14.97	513	12.19
1952	1235	7,650	Jan. 29, 1952	8.8	595	1.04	14.21	544	12.99
1953	1275	4,000	May 25, 1953	4.5	217	.380	5.17	217	5.15
1954	1335	2,220	Apr. 18, 1954	6.2	127	.222	3.01	133	3.16
1955	1385	4,890	Mar. 6, 1955	12	293	.513	6.99	313	7.46
1956	1435	5,720	Mar. 10, 1956	17	388	.680	9.25	365	8.70
1957	1505	8,010	Apr. 6, 1957	15	522	.914	12.40	654	15.55
1958	1555	3,680	June 13, 1958	36	552	.967	13.12	451	10.70
1959	1625	10,100	Jan. 21, 1959	13	560	.981	13.32	565	13.45
1960	1705	3,400	Jan. 15, 1960	16	283	.496	6.73	-	-

SCIOTO RIVER BASIN

2196. Eagon Run near Warrensburg, Ohio

Location.--Lat 40°19'35", long 83°09'15", in T.5 N., R.20 W., on right bank at Herbert, Eagon farm, 0.9 mile above mouth, 1.7 miles northeast of Warrensburg, Delaware County, and 5.0 miles northwest of Delaware.

Drainage area.--0.123 sq mi (79 acres).

Records available.--October 1949 to September 1960.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 922.7 ft above mean sea level, adjustment of 1912.

Average discharge.--11 years (1949-60), 0.089 cfs.

Extremes.--1949-60: Maximum discharge, 48 cfs May 28, 1959 (gage height, 5.29 ft), from rating curve extended above 13 cfs by logarithmic plotting; no flow for many days each year.

Remarks.--A stock pond (capacity, 16.6 acre-ft) 1,000 ft upstream has regulated runoff from 41 acres since Oct. 31, 1954.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	0	0	0.005	0.491	0.486	0.171	0.206	0.069	0.017	0.006	0.013	0.002	0.120
1951	.015	.091	.265	.341	.340	.379	.256	.155	.146	.030	0	0	.167
1952	0	.002	.260	.582	.212	.315	.326	.093	.046	.004	.003	.002	.154
1953	0	0	.004	.066	.086	.180	.075	.103	.015	.015	.001	0	.045
1954	0	0	.001	.007	.001	.054	.121	.020	.047	.013	.019	0	.024
1955	.025	0	.016	.029	.164	.263	.108	.006	.001	0	0	0	.043
1956	0	.017	.003	.011	.231	.135	.080	.049	.016	.006	.002	0	.045
1957	0	0	.003	.027	.010	.008	.240	.189	.183	.039	0	.007	.059
1958	.008	.042	.159	.114	.036	.055	.181	.141	.401	.100	.366	.031	.137
1959	.018	.016	.017	.549	.328	.197	.106	.196	.096	.018	.002	.002	.128
1960	.0003	.015	.041	.118	.112	.115	.132	.060	.027	.002	.045	.001	.055

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	0	0	0.05	4.60	4.11	1.60	1.86	0.65	0.15	0.06	0.12	0.02	13.22
1951	.14	.83	2.48	3.19	2.87	3.55	2.32	1.45	1.33	.28	0	0	18.44
1952	0	.02	2.43	5.45	1.86	2.95	2.96	.87	.42	.04	.03	.02	17.05
1953	0	0	.04	.62	.73	1.68	.68	.96	.15	.14	.009	0	5.01
1954	0	0	.009	.07	.008	.51	1.10	.19	.43	.12	.18	0	2.62

Note.--See footnote to following table.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1950	1555	32	Jan. 15, 1950	0	0.120	0.976	13.22	0.151
1951	1555	11	Jan. 3, 1951	0	.167	1.36	18.44	.158
1952	1555	15	Mar. 10, 1952	0	.154	1.25	17.05	.132
1953	1555	4.7	July 18, 1953	0	.045	.366	5.01	.045
1954	1555	7.1	July 31, 1954	0	.024	.195	2.62	.027
1955	1555	31	Mar. 3, 1955	0	.043	-	-	.041
1956	1555	24	Feb. 25, 1956	0	.045	-	-	.044
1957	1555	8.3	June 28, 1957	0	.059	-	-	.076
1958	1555	37	June 10, 1958	0	.137	-	-	.123
1959	1625	48	May 28, 1959	0	.128	-	-	.128
1960	1705	2.3	Aug. 7, 1960	0	.055	-	-	-

Note.--Figures for discharge in cubic feet per second per square mile and runoff in inches for October 1954 to September 1958, published in WSP 1555, have been found to be in error because of regulation by stock pond. Those figures are not published herein and should not be used.

2200. Mill Creek near Bellepoint, Ohio

Location.--Lat 40°14'55", long 83°10'30", on left bank at upstream side of highway bridge, 1½ miles upstream from mouth and 1½ miles west of Bellepoint, Delaware County.

Drainage area.--181 sq mi.

Records available.--October 1942 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 865.14 ft above mean sea level, adjustment of 1912 (levels by students of Ohio State University, city of Columbus bench mark). Prior to Jan. 1, 1948, chain gage at same site and datum.

Average discharge.--18 years (1942-60), 157 cfs.

Extremes.--1942-60: Maximum discharge, 20,300 cfs Jan. 21, 1959 (gage height, 13.85 ft), from rating curve extended above 14,000 cfs by logarithmic plotting; no flow Sept. 25, 26, 1944, Sept. 19, 1948.
Maximum stage known, 18.0 ft in March 1913.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	125	278	488	551	760	328	252	218	97.6	15.4	2.12	1.71	257
1952	2.30	20.7	351	760	269	421	412	96.0	21.7	3.02	2.92	6.55	198
1953	1.17	3.28	21.8	204	123	204	50.3	195	10.6	28.2	12.8	1.60	71.6
1954	.90	2.64	4.54	23.1	26.8	192	128	17.4	175	11.0	37.9	1.42	51.4
1955	44.1	18.0	102	102	470	522	44.1	10.5	6.85	8.85	6.85	2.20	109
1956	6.94	156	25.6	16.8	686	302	159	440	75.0	147	29.7	5.63	169
1957	4.59	5.54	22.3	134	122	52.5	788	283	282	54.9	25.7	51.6	151
1958	21.9	147	520	158	107	123	293	250	532	127	223	66.1	214
1959	18.2	23.4	39.7	977	548	238	171	135	20.9	77.3	11.4	5.49	187
1960	6.57	34.4	176	288	251	176	121	65.1	30.4	12.8	11.8	1.50	97.6

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.80	1.72	3.11	3.50	4.37	2.09	1.56	1.38	0.60	0.10	0.01	0.01	19.24
1952	.02	.13	2.24	4.84	1.61	2.69	2.54	.61	.13	.02	.02	.04	14.89
1953	.007	.02	.14	1.30	.71	1.30	.31	1.24	.07	.18	.08	.01	5.37
1954	.006	.02	.03	.15	.15	1.22	.79	.11	1.07	.07	.24	.009	3.86
1955	.28	.11	.65	.65	2.71	3.32	.27	.07	.04	.06	.04	.01	8.21
1956	.04	.96	.16	.11	4.09	1.92	.98	2.80	.46	.94	.19	.03	12.68
1957	.03	.03	.14	.85	.70	.33	4.85	1.80	1.74	.35	.16	.32	11.30
1958	.14	.91	3.31	1.01	.62	.68	1.81	1.59	3.28	.81	1.42	.41	16.09
1959	.12	.14	.25	6.23	3.16	1.51	1.05	.86	.13	.49	.07	.03	14.04
1960	.04	.21	1.12	1.63	1.50	1.12	.75	.42	.19	.08	.07	.009	7.34

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	286	21.46
1951	1205	5,250	Dec. 3, 1950	0.3	257	1.42	19.24	214	16.00
1952	1235	7,040	Jan. 26, 1952	.5	198	1.09	14.89	168	12.67
1953	1275	2,120	Mar. 4, 1953	.8	71.6	.396	5.37	70.0	5.26
1954	1335	2,540	June 17, 1954	.6	51.4	.284	3.86	64.6	4.85
1955	1385	3,570	Mar. 22, 1955	.6	109	.602	8.21	111	8.33
1956	1435	7,170	May 27, 1956	3.3	169	.934	12.68	156	11.72
1957	1505	5,740	Apr. 4, 1957	2.8	151	.834	11.30	206	15.46
1958	1555	3,500	May 5, June 10	5.8	214	1.18	16.09	163	12.24
1959	1625	20,300	Jan. 21, 1959	1.8	187	1.03	14.04	199	14.90
1960	1705	1,800	Jan. 13, 1960	.7	97.6	.539	7.34	-	-

2205. O'Shaughnessy Reservoir near Dublin, Ohio

Location.--Lat 40°09'15", long 83°07'34", in Delaware County, at dam on Scioto River, 4 miles north of Dublin, Franklin County.

Drainage area.--987 sq mi.

Records available.--October 1924 to September 1960. Monthly contents for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by city of Columbus). Prior to Dec. 2, 1940, staff gage at same site and datum.

Extremes.--1924-60: Maximum contents, 24,290 acre-ft Jan. 22, 1959 (elevation, 854.40 ft); minimum observed, 97.9 acre-ft Feb. 11, 1945 (elevation, 791.97 ft).

Remarks.--Reservoir is formed by concrete dam; dam completed and storage begun in 1924. Available capacity, 14,490 acre-ft between elevation 789.5 ft (still of outlet gate) and 845 ft (crest of spillway), based on survey made in 1942. Flashboards installed May 8, 1945, additional capacity, 2,450 acre-ft, between elevations 845 ft (crest of spillway) and 847.9 ft (crest of flashboards). Dead storage, 55 acre-ft. Records given herein represent total contents. Water used for municipal supply of city of Columbus.

Contents, in acre-feet, at 12 p.m., on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	17,220	17,320	17,320	17,320	17,620	18,320	17,710	17,320	17,320	16,380	13,590	11,310
1952	9,520	13,070	19,150	18,210	17,420	17,620	17,320	17,320	17,220	15,510	12,650	10,800
1953	9,040	8,680	12,860	17,620	17,420	17,420	17,320	17,420	17,030	17,220	15,180	12,510
1954	9,300	9,520	8,680	11,630	14,550	18,210	17,520	17,320	17,220	15,940	17,030	13,510
1955	16,480	16,200	17,710	17,220	18,210	17,810	18,320	18,110	17,120	17,120	16,380	13,660
1956	13,290	17,320	17,220	17,620	18,210	17,810	17,620	17,810	17,420	17,520	17,220	14,870
1957	13,290	12,580	16,200	17,420	18,210	17,420	17,520	17,420	18,840	17,320	16,570	15,100
1958	15,180	16,660	16,750	16,570	17,320	16,570	16,940	17,120	17,710	16,620	17,320	17,420
1959	17,230	17,360	17,310	18,300	17,670	17,400	18,880	17,520	17,440	17,240	12,930	12,480
1960	12,750	17,470	17,780	17,830	17,530	18,460	17,520	17,850	17,450	17,020	17,300	15,170

2210. Scioto River below O'Shaughnessy Dam, near Dublin, Ohio

Location.--Lat 40°08'36", long 83°07'14", on left bank in Delaware County, a quarter of a mile north of county line, three-quarters of a mile downstream from O'Shaughnessy Dam, and 3 miles north of Dublin, Franklin County.

Drainage area.--988 sq mi.

Records available.--April 1921 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 775.00 ft above mean sea level, adjustment of 1912. Prior to Aug. 26, 1921, staff gage at site three-quarters of a mile upstream at same datum. Aug. 26, 1921, to Oct. 13, 1924, staff gage at site 100 ft downstream at same datum.

Average discharge.--39 years (1921-60), 772 cfs.

Extremes.--1921-60: Maximum discharge, 55,200 cfs Jan. 22, 1959 (gage height, 22.04 ft, from high-water mark); minimum, 0.4 cfs Nov. 8, 1924 (gage height, 2.21 ft). Maximum stage known, 24.6 ft Mar. 25, 1913 (discharge, 74,500 cfs at Griggs Dam, 9 miles below gage, computed by C. E. Sherman, Ohio State University).

Remarks.--Flow regulated by O'Shaughnessy Reservoir since 1924.

Revisions.--Some periods for the water year 1924 were revised in WSP 1505; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches	Momentary maximum		Minimum day
				Discharge	Date	
March 1924.....	2,850	-	3.32	-	-	-
Water year 1923-24...	1,035	1.05	14.25	16,200	Mar. 29, 1924	30
Calendar year 1924...	809	-	-	-	-	-

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	459	1,073	2,406	2,789	3,210	1,834	1,546	754	349	106	69.4	68.6	1,211
1952	65.1	23.4	1,348	4,717	1,624	2,376	2,258	388	110	59.5	71.8	61.4	1,094
1953	43.4	39.3	13.0	618	462	928	348	1,529	87.2	98.9	77.1	56.1	560
1954	61.1	15.1	39.1	38.1	56.4	514	1,161	219	413	54.4	47.5	69.4	223
1955	61.7	58.7	210	535	1,857	3,041	373	94.6	57.8	62.6	76.0	68.6	535
1956	63.0	479	117	79.3	2,939	2,459	734	949	523	546	144	74.4	750
1957	52.6	45.4	30.9	505	608	471	4,705	1,628	1,394	889	79.8	497	903
1958	119	557	2,421	711	634	846	1,268	974	2,237	1,212	1,362	373	1,055
1959	130	265	276	4,616	3,112	1,447	1,086	1,063	204	220	131	55.1	1,041
1960	55.0	61.5	824	1,577	1,450	757	856	300	290	70.7	171	61.9	537

Yearly discharge, in cubic feet per second, of Scioto River below
O'Shaughnessy Dam, near Dublin, Ohio

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,445	-
1951	1205	13,200	Jan. 3, 1951	12	1,211	-	-	1,001	-
1952	1235	21,100	Jan. 27, 1952	7.5	1,094	-	-	981	-
1953	1275	5,340	May 18, 1953	8.5	360	-	-	362	-
1954	1335	4,910	June 18, 1954	1.0	223	-	-	242	-
1955	1385	9,660	Mar. 22, 1955	2.4	535	-	-	562	-
1956	1435	12,300	Feb. 25, 1956	28	750	-	-	707	-
1957	1505	17,000	Apr. 5, 1957	2.8	903	-	-	1,154	-
1958	1555	9,920	June 13, 1958	16	1,055	-	-	850	-
1959	1625	55,200	Jan. 22, 1959	37	1,041	-	-	1,064	-
1960	1705	7,320	Jan. 16, 1960	3.9	537	-	-	-	-

2215. Griggs Reservoir near Columbus, Ohio

Location.--Lat 40°00'54", long 83°05'38", at dam on Scioto River, 5½ miles northwest of Columbus, Franklin County, and 6½ miles upstream from Olentangy River.

Drainage area.--1,052 sq mi.

Records available.--January 1921 to September 1960. Daily readings have been obtained by city of Columbus, Division of Water, since 1908. Monthly contents for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 680.38 ft above mean sea level, adjustment of 1912 (levels by city of Columbus). Prior to Oct. 4, 1940, staff gage at same site and datum.

Extremes.--1921-60: Maximum contents, 7,730 acre-ft Jan. 22, 1959 (elevation, 763.91 ft); minimum observed, 277 acre-ft Jan. 24, 1945 (elevation, 735.78 ft).

Remarks.--Reservoir is formed by concrete dam; dam completed and storage begun in 1905. Available capacity, 3,680 acre-ft between elevations 735.4 ft and 753.4 ft (crest of spillway), based on survey made in 1935. Flashboards installed July 28, 1945, additional capacity, 735 acre-ft, between elevations 753.4 ft (crest of spillway) and 755.6 ft (crest of flashboards). Dead storage, 250 acre-ft. Records given herein represent total contents. Water is used for municipal supply of city of Columbus.

Contents, in acre-feet, at 12 p.m., on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	4,680	4,750	4,710	4,750	4,880	5,170	4,920	4,710	4,750	4,410	3,760	3,860
1952	3,860	2,830	5,610	5,060	4,750	4,750	4,780	4,680	4,680	3,930	4,030	4,070
1953	3,250	3,040	1,630	4,810	4,710	4,680	4,680	4,710	4,130	4,470	4,410	4,170
1954	3,960	1,790	1,270	1,090	1,680	5,090	4,780	4,640	4,470	4,100	3,930	4,240
1955	4,370	3,760	4,880	4,640	5,090	4,880	4,680	4,470	4,170	4,270	4,130	4,130
1956	4,170	4,680	4,640	4,810	5,060	4,920	4,810	4,920	4,710	4,780	4,270	4,680
1957	4,070	3,590	3,100	4,710	5,060	4,710	4,750	4,750	5,380	4,680	4,300	4,810
1958	4,640	4,810	4,850	4,750	5,130	4,780	4,950	4,640	4,850	4,950	4,780	4,710
1959	4,630	4,670	4,860	5,130	4,890	4,740	5,390	4,740	4,670	3,510	4,650	4,140
1960	3,860	4,700	4,860	4,870	4,730	5,140	4,740	4,880	4,710	4,670	4,670	4,360

2230. Olentangy River at Claridon, Ohio

Location.--Lat 40°35'05", long 82°59'20", in NW $\frac{1}{4}$ sec.26, T.16 S., R.16 E., on left bank at downstream side of bridge on State Highway 95, half a mile east of Claridon, Marion County, half a mile downstream from Otter Creek, and $7\frac{1}{2}$ miles east of Marion.

Drainage area.--156 sq mi.

Records available.--October 1946 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 962.25 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers).

Average discharge.--14 years (1946-60), 153 cfs.

Extremes.--1946-60: Maximum discharge, 14,900 cfs Jan. 22, 1959 (gage height, 16.77 ft), from rating curve extended above 4,700 cfs on basis of contracted-opening measurement of peak flow; no flow Oct. 2-26, 1953, Sept. 14-22, 1955.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	37.7	131	363	484	515	330	234	81.4	25.3	14.9	2.23	1.68	183
1952	2.37	20.3	369	796	255	347	291	33.7	11.9	8.32	1.35	7.04	179
1953	.91	2.76	17.0	134	99.9	112	109	425	21.7	72.3	11.0	7.0	84.3
1954	.02	2.86	4.74	27.2	33.7	167	417	59.9	145	9.51	9.96	1.15	72.7
1955	6.70	6.32	26.1	80.5	371	571	78.7	17.8	7.38	29.5	5.71	.74	98.7
1956	9.95	138	26.1	29.4	564	458	104	226	172	138	32.5	6.88	157
1957	3.56	5.68	26.4	124	201	82.5	745	310	365	103	5.12	154	175
1958	34.5	158	468	108	107	115	191	144	109	124	271	32.9	156
1959	15.8	42.0	53.4	901	554	235	227	136	59.2	14.1	4.88	2.83	185
1960	8.66	32.2	169	263	246	115	151	42.7	90.7	13.5	8.27	3.36	94.8

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.28	0.94	2.69	3.57	3.44	2.44	1.67	0.60	0.18	0.11	0.02	0.01	15.95
1952	.02	.14	2.73	5.88	1.76	2.56	2.09	.25	.08	.06	.01	.05	15.63
1953	.007	.02	.13	.99	.67	.83	.78	3.14	.16	.53	.08	.005	7.34
1954	.0002	.02	.03	.20	.22	1.23	2.98	.44	1.04	.07	.07	.008	6.31
1955	.05	.05	.19	.59	2.48	4.22	.56	.13	.05	.22	.04	.005	8.58
1956	.07	.99	.19	.22	3.90	3.39	.74	1.67	1.23	1.02	.24	.05	13.71
1957	.03	.04	.19	.92	1.34	.61	5.33	2.29	2.61	.76	.04	1.10	15.26
1958	.25	1.13	3.46	.80	.71	.85	1.36	1.06	.78	.92	2.01	.24	13.57
1959	.12	.30	.39	6.66	3.70	1.74	1.63	1.01	.42	.10	.04	.02	16.13
1960	.06	.23	1.24	1.95	1.70	.85	1.08	.32	.65	.10	.06	.02	8.26

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	244	21.22
1951	1205	3,280	Jan. 4, 1951	0.4	183	1.17	15.95	172	14.93
1952	1235	4,900	Jan. 27, 1952	.2	179	1.15	15.63	148	12.90
1953	1275	2,340	May 23, 1953	.2	84.3	.540	7.34	83.2	7.24
1954	1335	2,090	June 17, 1954	0	72.7	.466	6.31	75.4	6.55
1955	1385	2,340	Mar. 22, 1955	0	98.7	.633	8.58	110	9.54
1956	1435	3,170	Feb. 26, 1956	2.9	157	1.01	13.71	146	12.72
1957	1505	3,640	June 29, 1957	2.2	175	1.12	15.26	228	19.84
1958	1555	2,090	Aug. 8, 1958	9.4	156	1.00	13.57	110	9.54
1959	1625	14,900	Jan. 22, 1959	.6	185	1.19	16.13	194	16.85
1960	1705	1,410	Feb. 11, 1960	1.6	94.8	.608	8.26	-	-

2235. Whetstone Creek near Shawtown, Ohio

Location.--Lat 40°28'30", long 82°56'40", in T.7 N., R.18 W., on left bank at downstream side of highway bridge, 1½ miles southeast of Shawtown, Morrow County, 1½ miles upstream from Shaw Creek, and 3¼ miles southwest of Cardington.

Drainage area.--61.7 sq mi.

Records available.--October 1946 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 954.69 ft above mean sea level, adjustment of 1912.

Average discharge.--9 years (1946-55), 65.3 cfs.

Extremes.--1946-55: Maximum discharge, 4,920 cfs Feb. 14, 1948 (gage height, 8.84 ft); no flow at times in 1953-55.
Flood of Jan. 21, 1959, reached a stage of 10.6 ft, from floodmark.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.13	55.8	150	186	204	146	111	34.6	60.1	16.4	1.70	3.89	80.6
1952	1.43	16.9	165	275	101	131	143	29.9	9.00	7.25	1.96	4.49	74.1
1953	1.65	3.77	11.1	68.4	54.7	64.7	63.5	179	9.79	9.27	2.85	.11	39.1
1954	.75	2.58	4.30	22.1	23.8	100	132	19.6	20.5	3.34	3.79	.51	27.8
1955	7.71	7.61	19.7	34.2	155	200	40.8	10.6	4.03	13.1	3.21	1.11	40.8

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.17	0.97	2.80	3.47	3.45	2.73	2.01	0.65	1.09	0.31	0.03	0.07	17.75
1952	.03	.31	3.08	5.14	1.77	2.44	2.59	.56	.16	.14	.04	.08	16.34
1953	.03	.07	.21	1.28	.92	1.21	1.15	3.34	.18	.17	.05	.002	8.61
1954	.01	.05	.08	.41	.40	1.87	2.39	.37	.37	.06	.07	.009	6.09
1955	.14	.14	.37	.64	2.61	3.74	.74	.20	.07	.24	.06	.02	8.97

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	100	22.03
1951	1205	2,580	June 9, 1951	0.7	80.6	1.31	17.75	78.2	17.23
1952	1235	3,550	Jan. 27, 1952	.1	74.1	1.20	16.34	60.0	13.23
1953	1275	1,250	May 23, 1953	0	39.1	.634	8.61	38.4	8.44
1954	1335	1,240	Apr. 17, 1954	0	27.8	.451	6.09	30.1	6.60
1955	1385	1,730	Mar. 4, 1955	0	40.8	.661	8.97	-	-

2240. Shaw Creek at Shawtown, Ohio

Location.--Lat 40°29'00", long 82°57'25", in T.7 N., R.18 W., on left bank at downstream side of highway bridge half a mile east of Shawtown, Morrow County, 1½ miles upstream from mouth, and 3½ miles southwest of Cardington.

Drainage area.--25.2 sq mi.

Records available.--October 1946 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 954.99 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers).

Average discharge.--9 years (1946-55), 25.4 cfs.

Extremes.--1946-55: Maximum discharge, 1,250 cfs Apr. 12, 1948 (gage height, 6.05 ft); no flow at times in 1952-55.

Flood of Jan. 21, 1959, reached a stage of 8.12 ft, from floodmarks (discharge, 4,120 cfs, on basis of contracted-opening measurement of peak flow).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.51	26.7	68.2	74.0	92.9	52.4	38.5	7.00	31.7	3.82	0.39	0.28	53.1
1952	.43	2.72	55.2	115	39.7	54.8	58.1	11.0	2.31	1.22	.30	.66	28.5
1953	.08	.26	2.85	22.0	16.6	22.9	17.1	64.4	4.26	2.28	1.21	.10	12.9
1954	.0065	.21	.99	9.51	6.92	39.1	49.8	7.68	13.2	.80	.91	.13	10.8
1955	1.39	1.71	4.58	12.3	63.6	89.0	11.9	2.53	1.18	1.44	.46	.05	15.6

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.30	1.18	3.12	3.39	3.84	2.40	1.71	0.32	1.41	0.18	0.02	0.01	17.88
1952	.02	.12	2.52	5.26	1.70	2.50	2.58	.50	.10	.06	.01	.03	15.40
1953	.004	.01	.13	1.01	.69	1.05	.76	2.95	.19	.10	.06	.004	6.96
1954	.0003	.009	.04	.43	.29	1.79	2.21	.35	.58	.04	.04	.006	5.79
1955	.06	.08	.21	.56	2.62	4.07	.53	.12	.05	.07	.02	.002	8.39

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	43.2	23.30
1951	1205	836	Dec. 3, 1950	.1	33.1	1.31	17.88	29.6	15.94
1952	1235	1,070	Jan. 27, 1952	0	28.5	1.13	15.40	23.9	12.88
1953	1275	475	May 23, 1953	0	12.9	.512	6.96	12.7	6.86
1954	1355	475	Apr. 17, 1954	0	10.8	.429	5.79	11.3	6.09
1955	1385	765	Mar. 4, 1955	0	15.6	.619	8.39	-	-

2245. Whetstone Creek near Ashley, Ohio

Location.--Lat 40°27'20", long 82°57'25", in NW¼ sec.19, T.7 N., R.18 W., on left bank 800 ft upstream from bridge on State Highway 746 in Morrow County, 0.6 mile downstream from Shaw Creek, and 3¼ miles north of Ashley, Delaware County.

Drainage area.--98.5 sq mi.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 948.77 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers).

Average discharge.--6 years (1954-60), 92.8 cfs.

Extremes.--1954-60: Maximum discharge, 19,100 cfs Jan. 21, 1959 (gage height, 14.34 ft), from rating curve extended above 3,900 cfs on basis of slope-area measurement of peak flow; no flow for many days in 1954-55.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	8.40	8.59	26.8	48.0	222	331	53.2	12.5	5.90	16.6	4.09	0.86	60.6
1956	20.3	138	23.5	18.5	349	276	66.7	121	89.5	65.1	19.9	4.95	97.5
1957	3.08	4.37	21.7	85.7	83.2	47.9	378	201	289	52.3	3.84	65.8	102
1958	14.2	85.1	268	72.1	76.0	85.2	157	120	100	86.6	93.2	48.6	99.1
1959	21.7	30.1	37.4	625	324	152	158	92.2	83.8	17.5	3.59	10.2	129
1960	7.93	41.1	147	183	166	82.8	105	37.6	35.0	5.97	14.0	3.23	68.8

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	0.10	0.10	0.31	0.56	2.34	3.87	0.60	0.15	0.07	0.19	0.05	0.01	8.35
1956	.24	1.56	.28	.22	3.82	3.12	.76	1.42	1.01	.76	.23	.06	13.48
1957	.04	.05	.25	1.00	.88	.56	4.28	2.35	3.27	.61	.04	.75	14.08
1958	.17	.74	3.14	.84	.80	1.00	1.77	1.41	1.14	1.01	1.09	.55	13.66
1959	.25	.34	.44	7.32	3.43	1.78	1.78	1.08	.95	.21	.04	.12	17.74
1960	.09	.47	1.72	2.14	1.82	.97	1.19	.44	.40	.07	.16	.04	9.51

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-
1955	1385	2,770	Mar. 4, 1955	0	60.6	0.615	8.35	71.9	9.92
1956	1435	4,020	Feb. 25, 1956	1.7	97.5	.990	13.48	84.9	11.74
1957	1505	3,780	June 29, 1957	1.0	102	1.04	14.08	129	17.79
1958	1555	1,910	Dec. 7, 1957	8.2	99.1	1.01	13.66	77.3	10.64
1959	1625	19,100	Jan. 21, 1959	.6	129	1.31	17.74	138	18.99
1960	1705	1,920	Dec. 13, 1959	1.8	68.8	.698	9.51	-	-

SCIOTO RIVER BASIN

2250. Delaware Reservoir near Delaware, Ohio

Location.--Lat 40°21'25", long 83°04'05", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ T.5 N., R.19 W., at dam on Olentangy River, 4 miles north of Delaware, Delaware County.

Drainage area.--381 sq mi (Corps of Engineers).

Records available.--March 1951 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, Sandy Hook datum (levels by Corps of Engineers).

Extremes.--1951-60: Maximum contents, 113,000 acre-ft Jan. 25, 1959 (elevation, 944.75 ft); minimum, 4,160 acre-ft Jan. 20, 1954 (elevation, 904.07 ft).

Remarks.--Reservoir is formed by earth dam with concrete spillway; closure of dam made Aug. 12, 1947; storage to maintain conservation pool began Mar. 20, 1951. Capacity at top of crest gates (elevation, 947.00 ft), 132,000 acre-ft of which 8,400 acre-ft (winter) and 14,000 acre-ft (summer) is in conservation pool. No dead storage. Records given herein represent total contents. Reservoir is used primarily for flood control although the conservation pool is operated for increased low flow for water supply and pollution abatement to downstream areas and for recreational and wildlife conservation purposes. Outflow is controlled mostly by operation of gates in sluiceways through dam, but above spillway level, taintor gates on spillway can be used.

Contents, in acre-feet, at 12 p.m., on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	-	-	-	-	0	4,940	7,680	9,600	14,260	13,740	11,360	10,400
1952	9,500	9,000	8,700	8,400	8,130	8,220	15,170	14,130	15,040	14,000	10,520	9,900
1953	8,800	9,130	8,310	9,100	8,500	8,400	14,260	14,130	14,390	14,130	13,480	11,820
1954	9,700	4,700	4,580	7,100	8,800	10,100	14,650	14,260	15,440	15,170	14,520	12,700
1955	12,960	8,600	8,900	8,130	9,700	8,800	14,130	14,000	14,130	14,520	13,350	12,040
1956	12,700	14,000	9,000	8,800	15,300	9,000	14,650	15,300	14,260	14,390	13,220	10,880
1957	9,500	8,600	8,600	8,600	9,500	8,500	14,000	14,390	40,880	14,000	11,120	13,220
1958	12,590	10,100	8,310	8,500	9,900	8,700	18,000	14,000	14,130	14,650	13,740	14,260
1959	9,520	8,970	8,700	51,140	8,970	8,800	34,000	15,270	14,780	13,510	11,750	10,890
1960	10,200	9,860	8,750	9,170	8,460	9,300	14,040	14,530	13,940	13,350	12,150	10,100

2255. Olentangy River near Delaware, Ohio

Location.--Lat 40°21'20", long 83°04'05", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ T.5 N., R.19 W., on left bank 500 ft upstream from highway bridge, 1,000 ft downstream from Delaware Dam, 1,300 ft upstream from Pennsylvania Railroad bridge, and 4 miles north of Delaware, Delaware County.

Drainage area.--387 sq mi.

Records available.--October 1923 to September 1934, April 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder and concrete control. Datum of gage is 800.00 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers). Prior to Oct. 1, 1950, water-stage recorder at site 500 ft downstream at datum 76.7 ft higher.

Average discharge.--33 years (1923-34, 1938-60), 344 cfs.

Extremes.--1923-34, 1938-60: Maximum discharge, 14,100 cfs Mar. 21, 1927 (gage height, 16.9 ft, site and datum then in use); minimum, 0.1 cfs Aug. 20, 1930, Sept. 14-29, 1934.

Remarks.--Flow completely regulated by Delaware Reservoir since 1951. Records of water temperatures are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	85.3	319	903	1,187	1,231	722	520	127	91.4	52.2	33.4	17.5	436
1952	18.7	57.2	761	1,780	615	828	713	138	20.3	45.4	36.1	20.7	422
1953	17.1	19.4	39.0	280	246	314	180	794	30.5	74.4	23.3	19.6	169
1954	27.8	89.7	17.1	20.5	45.9	360	685	124	204	15.0	22.9	21.9	137
1955	21.1	81.9	60.2	181	701	1,255	104	36.7	20.0	24.8	26.8	21.1	209
1956	20.6	280	129	72.9	1,109	1,130	140	390	271	215	81.3	54.5	322
1957	26.3	27.0	61.9	267	337	196	1,515	763	406	647	47.3	232	376
1958	70.6	346	1,052	280	195	320	384	480	434	350	501	113	379
1959	122	95.8	136	1,398	2,073	588	107	662	197	60.5	37.7	26.2	449
1960	30.0	96.4	448	628	575	255	284	127	165	32.9	51.8	33.1	226

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	610	-
1951	1205	5,880	Jan. 4, 1951	4.1	436	-	-	397	-
1952	1235	5,990	Jan. 26, 1952	5.2	422	-	-	357	-
1953	1275	3,910	May 19, 1953	4.5	169	-	-	173	-
1954	1355	3,020	Apr. 18, 1954	4.1	137	-	-	140	-
1955	1385	3,910	Feb. 22, 1955	5.7	209	-	-	231	-
1956	1435	4,000	Mar. 8, 9, 1956	20	322	-	-	296	-
1957	1505	4,460	Apr. 11, 1957	20	376	-	-	490	-
1958	1555	3,910	Apr. 30, 1958	28	379	-	-	285	-
1959	1625	6,000	Jan. 31, 1959	8.4	449	-	-	468	-
1960	1705	4,080	Dec. 13, 1959	14	226	-	-	-	-

2265. Olentangy River at Stratford, Ohio

Location.--Lat 40°15'29", long 83°03'44", in NE $\frac{1}{4}$ T.4 N., R.19 W., on left bank 0.2 mile upstream from bridge on U.S. Highway 23 at Stratford, Delaware County, and 3 miles downstream from Delaware Run.

Drainage area.--438 sq mi.

Records available.--July 1934 to December 1935, January 1938 to September 1958. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder and concrete control. Datum of gage is 823.63 ft above mean sea level, datum of 1929. Prior to Aug. 4, 1934, staff gage at same site and datum.

Average discharge.--21 years (1934-35, 1938-58), 365 cfs.

Extremes.--1934-35, 1938-58: Maximum discharge, 15,600 cfs June 19, 1939 (gage height, 8.77 ft); minimum, 0.96 cfs Sept. 17, 18, 1934 (gage height, 0.76 ft).

Remarks.--Flow regulated by Delaware Reservoir beginning in 1951.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	96.2	380	1,046	1,378	1,426	846	632	151	112	60.6	36.2	19.7	510
1952	21.1	66.3	854	2,007	682	904	849	168	27.4	50.9	41.6	23.1	476
1953	16.9	19.1	43.6	312	268	368	166	760	36.4	78.8	26.7	18.5	179
1954	27.2	86.2	19.9	26.8	51.4	426	829	140	243	19.4	28.4	21.2	159
1955	31.0	89.4	75.3	218	843	1,455	120	44.1	23.8	24.8	27.5	21.5	245
1956	22.5	328	143	80.4	1,298	1,233	180	463	292	225	102	65.3	366
1957	28.2	29.3	70.8	322	350	218	1,739	790	460	692	53.7	237	414
1958	84.0	392	1,175	320	206	352	446	570	555	433	615	124	442
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	671	-
1951	1205	6,310	Jan. 4, 1951	9.0	510	-	-	462	-
1952	1235	10,000	Jan. 26, 1952	7.0	476	-	-	403	-
1953	1275	3,990	May 20, 1953	4.0	179	-	-	183	-
1954	1335	3,220	Apr. 18, 1954	4.4	159	-	-	165	-
1955	1385	4,450	Feb. 22, 1955	15	245	-	-	269	-
1956	1435	4,220	Mar. 9, 1956	17	366	-	-	336	-
1957	1505	5,020	Apr. 8, 1957	21	414	-	-	542	-
1958	1555	4,100	Apr. 30, 1958	31	442	-	-	-	-
1959	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-

2268. Olentangy River near Worthington, Ohio

Location.--Lat 40°06'35", long 83°01'55", in NW $\frac{1}{4}$ T.2 N., R.18 W., on right bank 30 ft downstream from Wilson Bridge Road Bridge, 1 $\frac{1}{2}$ miles northwest of Worthington, Franklin County, and 2 $\frac{1}{2}$ miles upstream from Rush Run.

Drainage area.--493 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 743.20 ft above mean sea level, datum of 1929, unadjusted.

Average discharge.--5 years (1955-60), 442 cfs.

Extremes.--1955-60: Maximum discharge, 16,500 cfs Jan. 21, 1959 (gage height, 15.68 ft, from high-water mark in well); minimum, 8.8 cfs July 11, 1959 (gage height, 2.36 ft). Flood in January 1952 reached a stage of 15.3 ft, from information by Corps of Engineers (discharge, 15,100 cfs).

Remarks.--Flow regulated by Delaware Reservoir. Records of water temperatures are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	24.7	352	156	89.6	1,437	1,313	264	644	386	331	141	77.6	431
1957	32.0	32.2	83.6	303	358	249	1,892	998	497	694	55.5	206	448
1958	88.0	370	1,262	396	217	415	529	693	676	556	660	132	503
1959	135	105	158	1,915	2,368	681	174	732	227	65.5	42.6	28.3	542
1960	43.1	118	542	789	726	505	377	180	194	42.1	74.5	38.9	284

Yearly discharge, in cubic feet per second, of Olentangy River near Worthington, Ohio

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1956	1435	6,080	May 27, 1956	19	431	-	-	399	-
1957	1505	6,620	May 20, 1957	25	448	-	-	561	-
1958	1555	4,840	Dec. 20, 1957	39	503	-	-	391	-
1959	1625	16,500	Jan. 21, 1959	9.2	542	-	-	568	-
1960	1705	3,970	Dec. 14, 1959	17	284	-	-	-	-

2275. Scioto River at Columbus, Ohio

Location.--Lat 39°54'34", long 83°00'33", on right bank at sewage-treatment works of city of Columbus, Franklin County, 0.4 mile downstream from bridge on Frank Road.

Drainage area.--1,624 sq mi.

Records available.--October 1920 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 680.40 ft above mean sea level, adjustment of 1912. Prior to Oct. 1, 1924, staff gage at site 200 ft upstream at same datum.

Average discharge.--40 years (1920-60), 1,343 cfs.

Extremes.--1920-60: Maximum discharge, 68,200 cfs Jan. 22, 1959 (gage height, 27.22 ft, from high-water mark in well), from rating curve extended above 46,000 cfs by logarithmic plotting; minimum, 42 cfs Sept. 6, 1930.

Flood of Mar. 25, 1913, reached a stage of 25.9 ft (discharge, 138,000 cfs, estimated by Franklin County Conservancy District). This stage is not comparable with present gage heights because of subsequent channel improvement and levee construction.

Remarks.--Flow regulated by Griggs Reservoir, by O'Shaughnessy Reservoir since 1924, and by Delaware Reservoir since 1951. Records include sewage return flow for city of Columbus. Water supply for the city of Columbus is obtained from Scioto River below Griggs Dam, Big Walnut Creek below Central College and from wells in the Alum Creek basin. For statement on diversion from Alum Creek basin into municipal supply system of the city of Columbus see Remarks for Alum Creek at Columbus. Diversion from Big Walnut Creek began June 1956 and records of diversion furnished by city of Columbus, see Remarks for Big Walnut Creek at Rees.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	588	1,619	4,000	4,706	5,259	3,102	2,515	1,157	569	259	141	141	1,987
1952	120	211	2,440	7,740	2,858	3,804	3,593	711	241	167	143	119	1,849
1953	96.8	873	123	1,011	847	1,426	641	2,547	210	252	156	101	627
1954	99.0	169	100	119	144	956	2,145	457	734	169	168	109	446
1955	173	204	285	865	2,928	4,855	694	224	172	151	144	133	892
1956	134	939	302	196	4,522	3,938	1,241	1,686	854	1,002	382	218	1,272
1957	151	138	203	855	993	818	6,816	2,983	1,915	1,652	215	677	1,445
1958	277	1,088	3,589	1,326	792	1,454	1,992	2,039	3,391	2,107	2,136	628	1,742
1959	378	438	508	6,524	5,974	2,437	1,294	2,074	555	400	217	154	1,724
1960	172	252	1,522	2,420	2,413	1,157	1,474	659	687	292	340	159	956

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2,361	-
1951	1205	23,100	Jan. 4, 1951	97	1,987	-	-	1,699	-
1952	1235	40,300	Jan. 27, 1952	95	1,849	-	-	1,640	-
1953	1275	7,940	May 20, 1953	69	627	-	-	632	-
1954	1335	8,090	Mar. 31, 1954	68	446	-	-	471	-
1955	1385	15,100	Mar. 22, 1955	87	892	-	-	951	-
1956	1435	16,400	Feb. 25, 1956	100	1,272	-	-	1,199	-
1957	1505	21,400	Apr. 4, 1957	108	1,445	-	-	1,821	-
1958	1555	15,600	June 13, 1958	155	1,742	-	-	1,436	-
1959	1625	68,200	Jan. 22, 1959	120	1,724	-	-	1,777	-
1960	1705	10,800	Feb. 10, 1960	119	956	-	-	-	-

2280. Scioto Big Run at Briggsdale, Ohio

Location.--Lat 39°54'55", long 83°03'55", on right bank at downstream side of bridge on U.S. Highway 62 at Briggsdale, Franklin County, 2½ miles northeast of Grove City, and 4 miles upstream from mouth.

Drainage area.--11.0 sq mi (revised).

Records available.--July 1946 to September 1958, water years 1959-60 (annual maximum).

Gage.--Water-stage recorder. Datum of gage is 729.06 ft above mean sea level, adjustment of 1912.

Average discharge.--12 years (1946-58), 10.7 cfs.

Extremes.--1946-60: Maximum discharge, 2,920 cfs Jan. 21, 1959 (gage height, 12.09 ft).
1946-58: No flow for many days during each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.67	17.1	45.3	39.5	44.5	26.2	18.6	6.61	4.14	1.68	0	0	17.0
1952	0	2.81	28.4	57.6	23.6	28.7	25.7	4.41	1.75	.03	0	0	14.5
1953	0	0	.003	8.04	8.42	5.69	4.40	5.47	.18	.66	8.73	0	3.45
1954	0	.05	.09	.83	.86	4.38	7.51	3.64	5.01	22.4	1.18	.01	3.86
1955	.43	.20	2.45	3.80	35.9	25.9	4.79	.79	2.34	1.45	.28	.01	6.34
1956	.17	5.40	1.07	4.20	39.9	23.3	17.9	12	11.5	.51	.08	.15	9.52
1957	.000	.02	1.15	4.33	10.1	66.42	52.1	25.1	4.44	.84	.003	.13	8.65
1958	.05	1.86	24.4	13.2	4.00	9.82	19.0	16.2	46.0	28.1	21.7	.77	15.5
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.28	1.73	4.75	4.14	4.22	2.74	1.89	0.69	0.42	0.18	0	0	21.04
1952	0	.28	2.97	6.04	2.32	3.01	2.61	.46	.12	.003	0	0	17.87
1953	0	0	.0003	.84	.80	.60	.45	.57	.02	.07	.92	0	4.27
1954	0	.003	.009	.09	.08	.46	.76	.38	.51	2.35	.12	.001	4.76
1955	.04	.02	.26	.40	3.40	2.71	.49	.08	.24	.15	.03	.001	7.82
1956	.02	.55	.11	.44	3.92	2.44	1.82	1.26	1.17	.05	.008	.02	11.81
1957	.0003	.002	.12	.45	.96	.67	5.29	2.63	.45	.09	.0003	.01	10.67
1958	.005	.19	2.56	1.38	.38	1.03	1.93	1.70	4.66	2.94	2.27	.08	19.12
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	16.2	18.39
1951	1205	955	Dec. 3, 1950	0	17.0	1.55	21.04	14.2	17.55
1952	1235	1,910	Jan. 26, 1952	0	14.5	1.32	17.87	11.8	14.62
1953	1275	1,830	Aug. 1, 1953	0	3.45	.314	4.27	3.46	3.15
1954	1335	2,790	July 20, 1954	0	3.86	.351	4.76	4.11	5.07
1955	1385	761	Mar. 21, 1955	0	6.34	.576	7.82	6.62	8.18
1956	1435	506	Apr. 3, 1956	0	9.52	.865	11.81	9.07	11.25
1957	1505	1,110	May 22, 1957	0	8.65	.786	10.67	10.8	13.31
1958	1555	1,270	Aug. 3, 1958	0	15.5	1.41	19.12	-	-
1959	1625	2,920	Jan. 21, 1959	-	-	-	-	-	-
1960	1705	560	Feb. 10, 1960	-	-	-	-	-	-

Location.--Lat 40°06'30", long 82°53'00", in T.2 N., R.17 W., at dam on Big Walnut Creek, half a mile northeast of Central College, Franklin County, and 12 miles northeast of Columbus.

Records available.--March 1955 to September 1960.

Extremes.--1955-60: Maximum contents, 74,680 acre-ft Jan. 21, 1959 (elevation, 894.76 ft); minimum, 32,750 acre-ft Nov. 3, 1959 (elevation, 878.04 ft).

Remarks--Reservoir is formed by earth dam with concrete spillway; dam completed in 1954 and storage began in March 1955. Available capacity, 60,340 acre-ft at elevation 890 ft (crest of spillway). Dead storage, 214 acre-ft at elevation 830 ft (sill of two 4- by 6-foot gates). Records given herein represent total contents. Water is used for municipal supply of city of Columbus.

Contents, in acre-feet, at 12 p.m., on last day of month												
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1955	-	-	-	-	-	2,750	5,300	4,870	6,190	7,090	7,270	7,210
1956	7,040	16,730	18,380	20,810	59,600	60,070	54,750	61,440	56,460	59,000	53,180	51,110
1957	47,820	44,890	46,340	55,800	57,550	59,400	58,600	61,380	52,560	45,620	42,140	
1958	38,950	39,570	60,890	60,620	61,440	60,340	61,380	58,750	60,690	61,640	66,340	58,730
1959	55,400	53,100	52,090	60,400	59,700	56,220	53,880	53,620	51,140	45,200	40,570	36,240
1960	33,150	34,390	48,290	60,510	59,000	61,320	59,700	61,160	57,710	54,430	52,010	47,390

Location.--Lat 40°06'13", long 82°53'03", in T.2 N., R.17 W., on left bank at upstream side of highway bridge, a quarter of a mile east of Central College, Franklin County, 0.4 mile downstream from Hoover Dam, and 3 miles southeast of Westerville.

Records available.--July 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 814.96 ft above mean sea level.

Average discharge.--22 years (1938-60), 182 cfs.

Extremes.--1938-60: Maximum discharge, 23,800 cfs Jan. 21, 1959 (gage height, 19.75 ft), from rating curve extended above 7,200 cfs on basis of computation of peak flow over Hoover Dam; no flow for many days in 1944 and 1955.

Remarks.--Flow completely regulated by Hoover dam since September 1954. Records of chemical analyses, water temperatures, and suspended sediment loads for the period October 1951 to September 1953 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second													
Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	20.7	190	554	658	693	447	330	93.9	77.7	21.4	1.45	1.09	255
1952	1.87	138	604	844	424	437	484	69.1	7.26	11.1	.83	.91	252
1953	.97	1.55	8.91	175	115	186	101	144	15.5	125	8.49	.61	71.9
1954	.36	2.18	4.06	36.8	51.2	294	227	45.7	30.5	3.61	6.98	.61	58.6
1955	8.37	15.3	74.6	140	503	690	46.2	21.5	.30	.55	4.86	3.43	124
1956	.15	1.63	.77	1.02	6.24	342	357	386	336	331	210	47.6	169
1957	51.4	35.5	34.9	41.9	56.2	166	764	582	177	222	99.5	64.2	192
1958	56.5	42.7	97.7	118	62.7	169	262	302	254	325	151	47.3	158
1959	53.6	52.5	52.8	871	568	289	230	230	215	95.3	70.3	65.2	231
1960	56.1	47.4	68.2	179	409	154	218	149	87.1	59.0	57.2	67.2	128

[illegible]

Yearly discharge, in cubic feet per second, of Big Walnut Creek at Central College, Ohio

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	292	20.76
1951	1205	6,980	Jan. 4, 1951	0.4	255	1.34	18.12	253	18.02
1952	1235	11,700	Jan. 27, 1952	.3	252	1.32	17.95	190	13.56
1953	1275	3,940	July 19, 1953	.4	71.9	.376	5.11	71.5	5.08
1954	1335	3,780	Mar. 29, 1954	.1	58.6	.307	4.17	68.3	-
1955	1385	2,030	Mar. 23, 1955	0	124	-	-	116	-
1956	1435	2,320	Mar. 8, 1956	0	169	-	-	179	-
1957	1505	6,990	May 20, 1957	31	192	-	-	198	-
1958	1555	3,410	May 4, 1958	27	158	-	-	155	-
1959	1625	23,800	Jan. 21, 1959	47	231	-	-	232	-
1960	1705	3,270	Feb. 11, 1960	44	128	-	-	-	-

2290. Alum Creek at Columbus, Ohio

Location.--Lat 39°56'42", long 82°56'28", on left bank a quarter of a mile downstream from Livingston Avenue Bridge in Columbus, Franklin County, and 6 miles upstream from mouth.

Drainage area.--190 sq mi.

Records available.--July 1923 to December 1935, January 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 733.62 ft above mean sea level.

Average discharge.--34 years (1923-35, 1938-60), 162 cfs.

Extremes.--1923-35, 1938-60: Maximum discharge, 26,400 cfs Jan. 22, 1959 (gage height, 19.59 ft, from high-water mark in well), from rating curve extended above 17,000 cfs on basis of contracted-opening measurement of peak flow; no flow Sept. 21-29, 1959.

Remarks.--Beginning in April 1950 part of municipal water supply for city of Columbus is pumped from its Alum Creek well field. A portion of pumpage is believed to be diverted from Alum Creek basin as recharge for aquifer supplying well field. Records not adjusted for diversion.

Revisions.--Figures of discharge in cubic feet per second per square mile and runoff in inches since July 1950 published in some water-supply papers are in error because of diversion and should not be used.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	30.4	200	475	574	582	415	303	97.9	75.0	18.6	0.79	2.36	229
1952	1.15	69.8	520	794	344	409	465	89.6	22.8	17.5	1.79	.76	228
1953	.41	.47	18.5	130	111	156	91.1	145	12.9	60.5	10.5	.29	61.4
1954	.18	.93	2.09	22.6	31.6	194	228	44.2	61.8	6.84	15.4	.74	52.3
1955	24.2	12.4	50.7	102	436	579	84.0	24.6	26.0	17.8	5.96	3.65	112
1956	3.73	145	25.0	27.8	630	352	211	366	130	165	51.2	8.92	174
1957	3.39	7.30	35.6	132	117	108	777	500	229	67.2	4.55	12.6	166
1958	7.12	41.4	301	106	51.6	135	235	253	337	254	168	38.7	162
1959	14.8	22.1	42.3	1,032	604	249	187	169	125	25.2	7.52	5.99	205
1960	17.1	59.6	230	296	293	126	182	128	39.5	25.1	29.8	5.35	119

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	267	-
1951	1205	4,800	Jan. 4, 1951	0.2	229	-	-	220	-
1952	1235	7,370	Jan. 27, 1952	.1	228	-	-	180	-
1953	1275	2,480	July 19, 1953	.1	61.4	-	-	60.0	-
1954	1335	1,840	Mar. 29, 1954	.1	52.3	-	-	59.4	-
1955	1385	4,310	Mar. 5, 1955	.3	112	-	-	119	-
1956	1435	5,920	Feb. 26, 1956	.4	174	-	-	164	-
1957	1505	5,760	May 20, 1957	.3	166	-	-	191	-
1958	1555	3,820	May 4, 1958	1.2	162	-	-	139	-
1959	1625	26,400	Jan. 22, 1959	0	205	-	-	224	-
1960	1705	2,530	Feb. 11, 1960	.8	119	-	-	-	-

2295. Big Walnut Creek at Rees, Ohio

Location.--Lat 39°51'24", long 82°57'26", in NE $\frac{1}{4}$ sec.26, T.4 N., R.22 W., on right bank at downstream side of highway bridge, half a mile southwest of Rees, Franklin County, and 4 $\frac{1}{4}$ miles downstream from Alum Creek.

Drainage area.--544 sq mi.

Records available.--August 1921 to December 1935, October 1938 to September 1960. Published as "at Rees Station" prior to 1924. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 698.20 ft above mean sea level, adjustment of 1912. Aug. 18, 1921, to Oct. 23, 1927, chain and staff gages at site 0.3 mile upstream at datum 2.00 ft lower prior to Oct. 1, 1924, at present datum thereafter.

Average discharge.--36 years (1921-35, 1938-60), 489 cfs (adjusted for diversion).

Extremes.--1921-35, 1938-60: Maximum discharge, 59,800 cfs Jan. 22, 1959 (gage height, 22.03 ft, from high-water mark in well), from rating curve extended above 13,000 cfs on basis of contracted-opening measurement of peak flow; minimum, 5 cfs Sept. 4, 5, 10-12, 1925.

Flood of Mar. 25, 1913, reached a stage of 20.5 ft, present datum, at site 0.3 mile upstream.

Remarks.--Flow regulated by Hoover Reservoir since September 1954. Diversion above station for part of municipal supply of city of Columbus since June 15, 1956. For statement on diversion from Alum Creek basin into municipal supply system of the city of Columbus see Remarks for Alum Creek at Columbus. Sewage returned to Scioto River above station at Columbus.

Revisions.--Figures of discharge in cubic feet per second per square mile and runoff in inches since July 1950, published in WSP 1305, are in error because of diversion from Alum Creek and should not be used.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	74.5	51.0	1,435	1,775	1,833	1,297	998	277	187	74.9	18.0	16.7	693
1952	18.9	223	1,259	2,278	1,042	1,194	1,250	271	71.5	53.1	19.2	18.9	642
1953	11.2	20.0	55.5	409	349	386	296	386	46.2	227	47.7	9.65	187
1954	8.25	14.0	20.3	96.9	112	559	615	160	191	31.5	52.9	12.6	156
1955	58.6	42.8	160	323	1,213	1,468	233	82.1	62.5	85.2	27.9	18.7	310
1956	22.5	227	53.9	71.6	1,032	960	800	958	627	519	227	50.0	460
1957	38.0	44.3	97.3	252	287	335	2,012	1,225	429	309	90.0	71.3	431
1958	47.6	107	754	355	187	423	705	868	1,156	1,097	893	128	545
1959	79.4	90.9	151	2,718	1,683	790	555	579	341	105	50.6	43.8	592
1960	74.9	163	446	657	949	359	467	385	148	102	73.3	40.1	320

Monthly and yearly diversions, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	-	-	-	-	-
1956	-	-	-	-	-	-	-	-	2.65	20.2	25.6	26.1	6.24
1957	29.4	29.1	29.6	29.3	29.5	29.5	30.0	30.7	30.3	30.2	31.9	31.0	30.0
1958	30.7	31.6	32.8	32.8	33.0	33.3	34.9	35.3	35.4	36.0	34.7	34.3	33.7
1959	34.1	33.8	34.6	35.5	35.2	35.2	36.4	40.8	41.4	41.8	44.1	42.6	38.0
1960	38.3	35.5	38.5	37.9	38.4	39.0	40.4	41.6	43.1	42.0	42.5	44.0	40.1

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	767	-
1951	1205	14,800	Jan. 4, 1951	12	693	-	-	650	-
1952	1235	21,000	Jan. 27, 1952	11	642	-	-	523	-
1953	1275	4,710	July 19, 1953	7.0	187	-	-	183	-
1954	1335	5,460	Mar. 30, 1954	6.7	156	-	-	174	-
1955	1385	7,700	Mar. 22, 1955	9.4	310	-	-	313	-
1956	1435	8,610	May 28, 1956	15	460	-	-	450	-
1957	1505	14,800	Apr. 5, 1957	27	431	-	-	493	-
1958	1555	9,540	May 5, 1958	38	545	-	-	496	-
1959	1625	59,800	Jan. 22, 1959	29	592	-	-	623	-
1960	1705	8,390	Feb. 11, 1960	28	320	-	-	-	-

Note.--Figures of discharge in cubic feet per second per square mile and runoff in inches since July 1950, previously published in water supply papers, are in error because of diversion from Alum Creek and should not be used. Those figures are not included herein.

Location.--Lat 39°38'00", long 82°57'45", in sec.3, T.4 N., R.22 W., on left bank 40 ft downstream from highway bridge, 1¼ miles upstream from Darby Creek, and 2½ miles northwest of Circleville, Pickaway County.

Records available.--October 1938 to September 1956. Monthly discharge only for some periods, published in WSP 1305.

Average discharge.--18 years (1938-56), 2,115 cfs.

Flood of Jan. 22, 1959, reached a stage of 27.2 ft from floodmark (discharge, 100,000 cfs).

Maximum stage known, about 31 ft (revised) Mar. 26, 1913.

Remarks.--Flow regulated by O'Shaughnessy and Griggs Reservoir by Delaware Reservoir since 1951 and by Hoover Reservoir since 1954.

[illegible][illegible]

2305. Big Darby Creek at Darbyville, Ohio
(Formerly published as Darby Creek at Darbyville, Ohio)

Location.--Lat 39°42'05", long 83°06'35", near right bank on downstream side of pier of bridge on State Highway 316, three-eighths of a mile northeast of Darbyville, Pickaway County, and 3 miles downstream from Greenbrier Creek.

Drainage area.--533 sq mi.

Records available.--October 1921 to December 1935, January 1938 to September 1960. Prior to October 1959, published as Darby Creek at Darbyville.

Gage.--Water-stage recorder. Datum of gage is 713.6 ft above mean sea level, adjustment of 1912. Prior to Mar. 17, 1940, chain or staff gages at same site and datum.

Average discharge.--36 years (1921-35, 1938-60), 434 cfs.

Extremes.--1921-35, 1938-60: Maximum discharge, 49,000 cfs Jan. 22, 1959 (gage height, 17.94 ft), from rating curve extended above 22,000 cfs on basis of contracted-opening measurement of peak flow; minimum observed, 1.4 cfs Sept. 17, 1932 (revised).

Correction.--In WSP 1305, the date of the minimum discharge for period of record is in error, it should be Sept. 17, 1932.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	204	526	1,422	1,609	2,081	1,165	933	651	282	128	26.1	18.6	746
1952	19.3	68.3	727	2,484	1,267	1,312	1,267	435	147	58.3	23.0	19.1	652
1953	16.6	27.2	57.3	342	361	451	266	684	100	50.1	26.1	6.85	199
1954	4.64	13.6	20.7	37.7	45.8	181	432	136	235	236	206	32.4	132
1955	59.0	45.5	132	306	1,086	1,289	303	110	68.5	89.6	18.8	8.07	288
1956	20.1	297	104	63.8	1,550	1,068	795	663	310	167	80.5	24.4	423
1957	17.3	27.8	56.0	221	273	192	2,180	1,014	480	263	41.8	55.7	397
1958	31.5	167	1,280	585	24.9	413	689	1,049	1,917	990	81.4	322	710
1959	116	96.1	138	2,808	1,842	740	314	540	153	96.5	72.6	23.4	573
1960	29.0	67.7	320	572	782	428	442	334	184	82.7	37.7	16.6	275

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.44	1.10	3.08	3.48	4.06	2.52	1.95	1.41	0.59	0.28	0.06	0.04	19.01
1952	.04	.14	1.57	5.37	2.57	2.84	2.66	.94	.31	.13	.05	.04	16.66
1953	.04	.06	.12	.74	.70	.98	.56	1.48	.21	.11	.06	.01	5.07
1954	.01	.03	.04	.08	.09	.39	.90	.29	.49	.51	.44	.07	3.54
1955	.13	.09	.29	.66	2.12	2.79	.63	.24	.14	.19	.04	.02	7.34
1956	.04	.62	.22	.14	3.14	2.31	1.66	1.43	.65	.56	.17	.05	10.79
1957	.04	.06	.12	.48	.53	.42	4.59	2.19	.96	.57	.09	.07	10.12
1958	.07	.35	2.72	1.26	.49	.89	1.44	2.27	4.02	2.14	1.76	.67	18.08
1959	.25	.20	.30	6.08	3.60	1.60	.66	1.16	.32	.21	.16	.05	14.59
1960	.06	.14	.69	1.23	1.58	.92	.92	.72	.38	.18	.08	.03	6.93

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	720	18.34
1951	1205	14,300	Feb. 22, 1951	13	746	1.40	19.01	634	16.14
1952	1235	21,600	Jan. 27, 1952	13	652	1.22	16.66	592	15.13
1953	1275	3,430	May 23, 1953	4.6	199	.575	5.07	194	4.95
1954	1335	3,680	July 21, 1954	3.3	132	.248	3.34	149	3.77
1955	1385	6,650	Mar. 23, 1955	4.6	286	.540	7.34	303	7.71
1956	1435	8,250	Feb. 27, 1956	15	423	.794	10.79	397	10.13
1957	1505	13,800	Apr. 5, 1957	14	397	.745	10.12	512	13.04
1958	1555	9,700	June 11, 1958	18	710	1.33	18.08	616	15.69
1959	1625	49,000	Jan. 22, 1959	13	573	1.08	14.59	578	14.73
1960	1705	4,730	Feb. 11, 1960	12	273	.512	6.93	-	-

Location.--Lat 39°35'09", long 83°07'22", on downstream side of bridge on U.S. Highway 22 at Williamsport, Pickaway County, 2 miles downstream from Dry Run.

Records available.--August 1926 to December 1935, January 1938 to September 1956. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Wire-weight and crest-stage gages. Datum of gage is 718.7 ft above mean sea level, adjustment of 1912. Prior to Feb. 29, 1940, chain gage and Feb. 29, 1940, to Aug. 24, 1954, water-stage recorder, at same site at datum 3.00 ft higher.

Extremes.--1926-35, 1938-56: Maximum discharge, 29,300 cfs Feb. 26, 1929, from rating curve extended above 15,000 cfs on basis of velocity-area studies; maximum gage height, 12.49 ft (datum then in use) Jan. 27, 1952; minimum discharge, 1.6 cfs July 25, 1934. Flood of Jan. 22, 1959, reached a stage of 17.6 ft, from floodmarks (discharge, 39,600 cfs, on basis of contracted-opening measurement of peak flow).

[illegible][illegible][illegible]

2315. Scioto River at Chillicothe, Ohio

Location--Lat 39°20'31", long 82°58'27", on right bank at north end of Chillicothe, Ross County, 450 ft downstream from Bridge Street Bridge on U.S. Highway 23.

Drainage area--3,847 sq mi.

Records available--December 1913 to September 1914 (gage heights and discharge measurements only), October 1920 to September 1960. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected in this vicinity since 1907 are contained in reports of U.S. Weather Bureau.

Gage--Water-stage recorder. Datum of gage is 594.0 ft above mean sea level, adjustment of 1912. Prior to Sept. 30, 1914, staff gage at site 400 ft upstream at different datum. Apr. 1, 1921, to Feb. 1, 1923, tape gage and Feb. 2, 1923, to Aug. 6, 1930, chain gage, at site 500 ft upstream at present datum.

Average discharge--40 years (1920-60), 3,308 cfs.

Extremes--1920-60: Maximum discharge, 144,000 cfs Jan. 23, 1959 (gage height, 32.50 ft, from high-water mark in well); minimum, 160 cfs Jan. 1, 1931. Maximum stage known, 39.8 ft Mar. 26, 1913 (discharge, 260,000 cfs, estimated by Franklin County Conservancy District).

Remarks--Flow regulated by Griggs Reservoir, by O'Shaughnessy Reservoir since 1924, by Delaware Reservoir since 1951, and by Hoover Reservoir since 1954. Records of chemical analyses for the period October 1950 to September 1951 and water temperatures for the periods October 1950 to September 1951, October 1953 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,121	3,192	9,881	11,520	13,700	7,827	6,317	2,822	1,482	952	350	328	4,909
1952	290	736	5,159	16,890	7,961	8,488	7,772	2,487	974	755	369	285	4,346
1953	239	257	413	2,380	2,413	2,911	1,769	4,187	714	822	506	207	1,400
1954	192	243	278	416	424	1,550	4,120	1,393	1,572	655	636	237	975
1955	391	372	673	2,110	7,103	11,290	2,034	796	643	765	362	246	2,207
1956	265	1,704	743	555	9,713	8,976	5,105	4,604	2,964	2,017	985	516	3,150
1957	364	360	630	1,849	2,749	2,310	14,640	6,391	3,456	3,357	590	939	3,126
1958	546	1,604	7,691	3,679	1,780	3,266	4,545	6,007	8,453	7,646	5,527	1,608	4,387
1959	873	834	1,184	13,710	11,740	5,118	2,628	3,919	1,461	890	523	343	3,559
1960	506	792	2,888	4,826	5,887	2,840	3,351	2,055	1,486	829	625	363	2,191

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	5,278	-
1951	1205	44,000	Jan. 6, 1951	275	4,909	-	-	4,235	-
1952	1235	85,400	Jan. 28, 1952	242	4,346	-	-	3,901	-
1953	1275	11,000	Mar. 6, 1953	175	1,400	-	-	1,384	-
1954	1335	12,000	Apr. 1, 1954	175	975	-	-	1,036	-
1955	1385	27,800	Mar. 24, 1955	178	2,207	-	-	2,312	-
1956	1435	21,800	(a)	219	3,150	-	-	3,044	-
1957	1505	55,000	Apr. 6, 1957	278	3,125	-	-	3,858	-
1958	1555	34,600	June 18, 1958	350	4,387	-	-	3,799	-
1959	1625	144,000	Jan. 23, 1959	254	3,559	-	-	3,669	-
1960	1705	21,400	Feb. 12, 1960	271	2,191	-	-	-	-

a Feb. 28, Mar. 10, Apr. 4, 1956.

Location.--Lat 39°22'50", long 83°22'30", on upstream side of highway bridge in Fayette County, a quarter of a mile north of county line, 0.6 mile upstream from Stone Run, and 2 miles north of Greenfield, Highland County.

Records available.--August 1926 to December 1935, October 1939 to September 1956. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Wire-weight and crest-stage gages. Datum of gage is 845.30 ft above mean sea level, datum of 1929. Prior to Feb. 14, 1940, chain gage and Feb. 14, 1940, to June 3, 1955, water-stage recorder, at same site and datum.

Extremes.--1926-35, 1939-56: Maximum discharge, 13,900 cfs Apr. 20, 1940 (gage height, 10.8 ft); no flow for Sept. 10, 18, 27, 29, 30, Oct. 1, 4, 1953. Flood of Jan. 21, 1959, reached a stage of 11.0 ft, from floodmark (discharge, 14,500 cfs).

[illegible][illegible][illegible]

2325. Rocky Fork near Barretts Mills, Ohio

Location.--Lat 39°13'05", long 83°23'05", on left bank at downstream side of highway bridge, 1.1 miles north of Barretts Mills, Highland County, 2 miles east of Rainsboro, 2½ miles upstream from mouth, and 6 miles downstream from Rocky Fork Reservoir.

Drainage area.--141 sq mi.

Records available.--October 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 770.7 ft above mean sea level (levels by Corps of Engineers). Prior to Feb. 15, 1940, chain gage at same site and datum.

Average discharge.--21 years (1939-60), 148 cfs.

Extremes.--1939-60: Maximum discharge, 13,200 cfs Mar. 6, 1945 (gage height, 15.56 ft), from rating curve extended above 6,000 cfs on basis of velocity-area studies; minimum daily, 1.0 cfs Nov. 17, 1953.

Remarks.--Some diurnal fluctuation caused by mill above station. Flow regulated by Rocky Fork Reservoir since 1952 (capacity, 34,100 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	63.6	196	543	620	569	366	289	63.6	66.3	30.2	9.09	19.3	221
1952	8.32	40.4	287	535	312	389	175	69.9	66.8	40.7	55.4	36.3	168
1953	9.72	4.84	10.7	39.9	15.1	45.1	47.0	323	95.9	30.4	28.9	22.2	56.5
1954	13.7	5.48	6.16	14.5	11.3	71.8	113	61.7	62.5	379	165	23.9	79.8
1955	65.1	32.0	120	170	571	538	117	54.3	41.6	89.8	22.0	7.48	150
1956	5.96	39.3	81.1	54.6	663	432	366	120	70.4	137	34.7	125	175
1957	26.7	29.3	79.7	227	294	131	524	63.7	365	33.0	13.9	7.58	149
1958	3.99	107	437	202	182	55.9	360	288	155	286	307	77.5	206
1959	30.6	41.9	63.0	495	362	258	165	94.4	30.2	65.0	29.9	24.3	139
1960	24.5	28.6	147	222	324	222	106	71.1	38.1	36.1	22.4	24.4	106

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.52	1.55	2.80	5.07	4.21	3.16	2.29	0.68	0.52	0.25	0.07	0.15	21.27
1952	.07	.32	2.35	4.37	2.38	3.18	1.38	.57	.53	.33	.45	.29	16.22
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	-	-	-	-	-
1956	-	-	-	-	-	-	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	234	22.54
1951	1205	6,500	Jan. 14, 1951	2.7	221	1.57	21.27	199	19.14
1952	1235	2,580	Mar. 11, 1952	1.7	168	1.19	16.22	142	-
1953	1275	3,030	May 22, 1953	1.7	56.5	-	-	56.5	-
1954	1335	6,150	July 21, 1954	1.0	79.8	-	-	96.0	-
1955	1385	2,980	Mar. 21, 1955	1.2	150	-	-	142	-
1956	1435	2,980	Apr. 3, 1956	2.6	175	-	-	176	-
1957	1505	5,680	Apr. 4, 1957	3.6	149	-	-	184	-
1958	1555	11,100	Aug. 3, 1958	2.4	206	-	-	172	-
1959	1625	6,000	Jan. 21, 1959	19	139	-	-	143	-
1960	1705	2,860	Feb. 10, 1960	19	106	-	-	-	-

Note.--Figures of discharge in cubic feet per second per square mile and runoff in inches since 1952, previously published in water-supply papers, are in error because of regulation by Rocky Fork Reservoir. Those figures should not be used.

2340. Paint Creek near Bournville, Ohio

Location.--Lat 39°15'49", long 83°10'01", on downstream side of left pier of highway bridge, 1 1/4 miles southwest of Bournville, Ross County, and 1 1/4 miles upstream from Upper Twin Creek.

Drainage area.--808 sq mi.

Records available.--October 1921 to January 1937, January 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1305. Published as "at Bainbridge" October 1921 to September 1923 and as "near Bainbridge" January 1938 to May 1939.

Gage (revised).--Water-stage recorder. Datum of gage is 665.2 ft above mean sea level, adjustment of 1912. Prior to Sept. 30, 1923, chain and staff gage at site 9 miles upstream at datum 700.81 ft above mean sea level. Oct. 1, 1923, to Aug. 26, 1924, chain gage and Aug. 27, 1924, to Jan. 25, 1937, water-stage recorder, at present site and datum. Jan. 20, 1938, to May 3, 1939, chain gage at site 6 miles upstream at datum 687.64 ft above mean sea level.

Average discharge.--37 years (1921-36, 1938-60), 785 cfs.

Extremes.--1921-37, 1938-60: Maximum discharge, 52,100 cfs Mar. 6, 1945 (gage height, 19.2 ft); minimum, 6.7 cfs Aug. 13, 14, 1930; minimum gage height, 1.67 ft Oct. 14, 15, 16, 1957.

Remarks.--Flow slightly regulated by Rocky Fork Reservoir since 1952 (capacity, 34,100 acre-ft). Records for suspended sediment loads and water temperatures for the period October 1956 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	344	1,048	2,578	3,111	3,400	1,926	1,441	484	269	244	35.6	32.8	1,231
1952	28.2	190	1,726	3,481	1,937	2,033	1,516	472	198	109	76.1	42.9	968
1953	22.8	22.2	39.1	764	613	670	439	1,108	279	96.5	140	28.3	351
1954	21.8	19.5	26.5	44.6	34.4	253	801	485	264	492	226	44.0	227
1955	88.2	51.2	218	480	2,172	2,903	655	201	150	403	81.1	65.4	612
1956	72.8	361	276	323	3,236	2,437	1,771	631	521	324	98.8	239	846
1957	61.2	73.4	428	1,002	1,738	885	3,504	783	1,186	599	81.5	33.0	837
1958	24.2	568	2,349	1,186	552	552	1,433	1,430	1,232	1,802	1,945	306	1,122
1959	116	123	351	3,078	2,267	1,460	765	634	181	213	185	63.2	780
1960	66.6	131	736	1,243	1,773	1,136	648	386	253	204	80.0	44.1	555

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.49	1.45	3.68	4.44	4.38	2.74	1.99	0.69	0.37	0.35	0.05	0.05	20.68
1952	.04	.26	2.47	4.97	2.59	2.90	1.82	.67	.27	.16	.11	.06	16.32
1953	.03	.03	.06	.09	.79	.96	.61	1.58	.38	.14	.20	.04	5.91
1954	.03	.03	.04	.06	.04	.36	1.11	.69	.36	.70	.32	.06	3.80
1955	.13	.07	.31	.68	2.80	4.14	.90	.29	.18	.58	.12	.09	10.29
1956	.10	.50	.39	.46	4.31	3.48	2.44	.90	.72	.46	.14	.33	14.23
1957	.09	.10	.61	1.43	2.24	1.27	4.56	1.12	1.64	.85	.12	.05	14.08
1958	.03	.78	3.36	1.70	.71	.79	1.98	2.04	1.70	2.57	2.78	.42	18.86
1959	.17	.17	.50	4.39	2.93	2.09	1.06	.90	.25	.30	.26	.09	13.11
1960	.09	.18	1.05	1.78	2.36	1.63	.89	.55	.35	.29	.11	.06	9.34

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,270	21.35
1951	1205	20,000	Dec. 3, 1950	16	1,231	1.52	20.68	1,061	17.83
1952	1235	15,700	Jan. 27, 1952	17	968	1.20	16.32	811	13.67
1953	1275	18,700	May 22, 1953	17	351	.434	5.91	350	5.89
1954	1335	11,100	July 21, 1954	12	227	.281	3.80	252	4.21
1955	1385	14,000	Mar. 22, 1955	27	612	.757	10.29	641	10.77
1956	1435	12,000	Mar. 8, 1956	42	846	1.05	14.23	834	14.04
1957	1505	25,000	Apr. 5, 1957	23	837	1.04	14.08	1,038	17.45
1958	1555	22,800	Aug. 3, 1958	17	1,122	1.39	18.86	924	15.53
1959	1625	24,700	Jan. 22, 1959	37	780	.965	13.11	809	13.59
1960	1705	14,400	Feb. 11, 1960	31	555	.687	9.34	-	-

2345. Scioto River at Higby, Ohio

Location.--Lat 39°12'44", long 82°51'35", in sec.6, T.7 N., R.20 W., on left bank at downstream side of highway bridge, three-quarters of a mile downstream from Walnut Creek and 1¼ miles north of Higby, Ross County.

Drainage area.--5,129 sq mi.

Records available.--October 1930 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 567.6 ft above mean sea level, adjustment of 1912. Prior to Nov. 7, 1930, staff gage at same site and datum.

Average discharge.--30 years (1930-60), 4,328 cfs.

Extremes.--1930-60: Maximum discharge, 177,000 cfs Jan. 23, 1937, from rating curve extended above 112,000 cfs; maximum gage height, 26.4 ft Jan. 23, 1937, from floodmarks, and Jan. 23, 1959; minimum discharge, 244 cfs Oct. 23, 1930. Maximum stage known, 31.6 ft Mar. 26, 1913.

Remarks.--Flow slightly regulated by O'Shaughnessy and Griggs Reservoirs, since 1951 by Delaware Reservoir, since September 1954 by Hoover Reservoir, and since 1952 by Rocky Fork Reservoir (capacity, 34,100 acre-ft). Records for suspended sediment loads and water temperatures for the period October 1953 to September 1960 are published in reports of Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,483	4,315	13,540	15,640	18,620	10,450	8,470	3,528	1,915	1,368	566	500	6,633
1952	455	952	7,124	21,420	11,150	11,800	9,614	2,944	1,216	979	543	412	5,715
1953	368	346	494	3,823	3,549	4,385	2,804	6,063	1,186	1,042	747	301	2,090
1954	271	331	356	505	518	1,824	5,521	2,324	2,052	1,254	1,032	386	1,364
1955	553	486	973	2,941	10,260	15,320	3,577	1,236	943	1,480	596	384	3,193
1956	473	2,345	1,105	977	14,020	12,650	8,400	6,051	4,147	2,705	1,260	888	4,540
1957	472	513	1,364	3,231	5,134	3,775	19,600	7,657	5,299	4,436	751	1,060	4,412
1958	613	2,289	10,710	5,416	2,567	4,179	6,821	8,610	10,490	10,310	7,964	2,129	6,042
1959	1,188	1,077	1,677	17,490	15,080	7,100	4,260	5,271	2,025	1,478	1,222	538	4,815
1960	666	1,034	4,066	6,791	8,640	4,528	4,488	2,693	1,980	1,235	808	517	3,103

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	7,076	-
1951	1205	46,600	Feb. 23, 1951	445	6,633	-	-	5,722	-
1952	1235	96,400	Jan. 29, 1952	360	5,715	-	-	5,098	-
1953	1275	21,700	May 22, 1953	264	2,090	-	-	2,069	-
1954	1355	13,100	Apr. 18, 1954	252	1,364	-	-	1,453	-
1955	1385	37,000	Mar. 23, 1955	292	3,193	-	-	3,350	-
1956	1435	31,400	Apr. 5, 1956	344	4,540	-	-	4,412	-
1957	1505	66,800	Apr. 6, 1957	415	4,412	-	-	5,363	-
1958	1555	40,600	June 16, 1958	443	6,042	-	-	5,224	-
1959	1625	160,000	Jan. 23, 1959	302	4,815	-	-	4,970	-
1960	1705	35,700	Feb. 11, 1960	420	3,103	-	-	-	-

2350. Salt Creek at Tarlton, Ohio

Location.--Lat 39°33'45", long 82°47'00", in SW $\frac{1}{4}$ sec.34, T.12 N., R.20 W., on right bank in Fairfield County, half a mile northwest of Tarlton, Pickaway County, and 6 $\frac{1}{4}$ miles upstream from Plum Run.

Drainage area.--10.6 sq mi.

Records available.--July 1946 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 875.36 ft above mean sea level, adjustment of 1912.

Average discharge.--14 years (1946-60), 10.2 cfs.

Extremes.--1946-60: Maximum discharge, 2,780 cfs July 18, 1947 (gage height, 6.4 ft), from rating curve extended above 850 cfs by velocity-area studies; no flow for many days.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.15	6.76	25.4	36.6	41.2	27.1	14.8	4.13	4.05	6.73	0.19	1.78	14.0
1952	.77	8.51	33.9	36.9	20.9	22.3	20.8	5.16	.96	3.90	.84	.39	12.8
1953	.15	.22	1.50	18.8	10.5	7.42	6.47	6.84	3.74	2.44	.76	.003	4.89
1954	0	.09	.50	3.32	1.30	7.41	9.61	8.20	10.0	.82	5.92	.26	3.97
1955	2.62	1.95	10.6	7.91	35.8	32.4	6.80	1.84	.71	2.12	.05	.07	8.42
1956	.44	3.19	1.75	10.3	36.5	31.0	16.5	18.0	1.96	1.72	1.56	2.15	10.3
1957	.24	.35	6.25	11.5	25.1	8.56	35.6	2.04	7.83	2.91	.07	.15	8.22
1958	.22	3.42	30.4	11.5	7.56	9.08	21.7	16.3	15.1	25.5	3.55	4.28	12.4
1959	1.52	2.00	6.50	33.1	24.1	15.3	7.21	6.48	.84	.24	.05	.01	8.04
1960	1.67	6.16	17.6	20.4	19.4	15.8	6.31	17.1	1.58	1.48	.55	.12	9.01

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.12	0.71	2.77	3.98	4.05	2.95	1.56	0.45	0.43	0.73	0.02	0.19	17.96
1952	.08	.87	3.69	4.01	2.12	2.42	2.19	.34	.10	.42	.09	.04	16.37
1953	.02	.02	.16	2.04	1.03	.81	.68	.74	.39	.27	.08	.0003	6.24
1954	0	.01	.05	.36	.13	.81	1.01	.89	1.05	.09	.64	.03	5.07
1955	.28	.21	1.15	.86	3.52	3.53	.72	.20	.07	.23	.005	.007	10.78
1956	.05	.34	.19	1.12	3.71	3.37	1.74	1.96	.21	.19	.17	.23	13.28
1957	.03	.04	.68	1.24	2.47	.93	3.75	.22	.82	.32	.008	.02	10.53
1958	.02	.36	3.31	1.25	.74	.99	2.29	1.78	1.58	2.78	.39	.45	15.94
1959	.16	.21	.71	3.60	2.36	1.66	.76	.70	.09	.03	.006	.001	10.29
1960	.18	.65	1.91	2.21	1.97	1.72	.66	1.86	.17	.16	.06	.01	11.56

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	14.3	18.27
1951	1205	1,020	July 28, 1951	-	14.0	1.32	17.96	14.8	19.00
1952	1235	625	Jan. 26, 1952	0	12.8	1.21	16.37	9.31	11.93
1953	1275	545	July 1, 1953	0	4.89	.461	6.24	4.78	6.10
1954	1335	1,720	June 13, 1954	0	3.97	.375	5.07	5.20	6.65
1955	1385	655	Mar. 4, 1955	0	8.42	.794	10.78	7.58	9.72
1956	1435	675	Apr. 3, 1956	0	10.3	.972	13.28	10.4	13.45
1957	1505	1,140	Apr. 4, 1957	0	8.22	.775	10.53	10.5	13.47
1958	1555	1,050	June 14, 1958	0	12.4	1.17	15.94	10.4	13.33
1959	1625	1,190	Jan. 21, 1959	0	8.04	.758	10.29	9.34	11.59
1960	1705	821	Feb. 10, 1960	0	9.01	.850	11.56	-	-

2355. Tar Hollow Creek at Tar Hollow State Park, Ohio

Location.--Lat 39°23'20"; long 82°45'00", in NE¼SE¼ sec.36, T.10 N., R.20 W., in Tar Hollow State Park, on left bank 2 miles upstream from mouth and 5¼ miles south of Adelphi, Ross County.

Drainage area.--1.50 sq mi.

Records available.--August 1946 to September 1960.

Gage.--Water-stage recorder and V-notch weir. Datum of gage is 793.91 ft above mean sea level, adjustment of 1912.

Average discharge.--14 years (1946-60), 1.22 cfs.

Extremes.--1946-60: Maximum discharge, 374 cfs June 13, 1958 (gage height, 5.62 ft), from rating curve extended above 35 cfs on basis of slope-area measurement at gage height 5.21 ft; no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0.54	3.25	6.60	6.48	4.74	3.18	2.47	0.08	0.60	0	0	2.31
1952	0	.31	2.31	3.87	2.69	4.63	2.41	.31	.01	.15	0	0	1.39
1953	0	0	.08	1.93	.72	1.87	2.07	1.41	.09	0	0	0	.68
1954	0	0	0	.14	0	.41	1.41	.93	0	0	0	0	.24
1955	0	0	.11	.07	2.20	3.88	2.63	.21	0	0	0	0	.75
1956	0	0	0	.05	3.39	5.22	3.52	2.91	.16	0	0	.03	1.26
1957	0	0	.56	1.45	2.30	1.24	4.35	.73	.07	.05	0	0	.88
1958	0	.14	1.89	1.11	.69	1.14	4.16	2.37	3.66	2.09	1.04	.09	1.53
1959	0	.05	.44	3.36	2.57	2.34	2.93	.70	.02	.02	0	0	1.03
1960	.06	.24	.94	2.43	2.47	1.78	.81	1.62	.04	0	0	0	.86

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0	0.40	2.50	5.07	4.50	3.64	2.36	1.90	0.06	0.45	0	0	20.89
1952	0	.23	1.78	2.97	1.93	3.56	1.80	.24	.007	.12	0	0	12.64
1953	0	0	.06	1.49	.50	1.44	1.54	1.08	.07	0	0	0	6.18
1954	0	0	0	.11	0	.31	1.05	.71	0	0	0	0	2.18
1955	0	0	.08	.05	1.53	2.99	1.95	.16	0	0	0	0	6.76
1956	0	0	0	.04	2.44	4.01	2.62	2.24	.12	0	0	.02	11.49
1957	0	0	.43	1.11	1.59	.95	3.22	.56	.05	.04	0	0	7.95
1958	0	.10	1.45	.85	.48	.88	3.09	1.82	2.72	1.60	.80	.07	13.86
1959	0	.04	.34	2.58	1.78	1.80	2.18	.54	.01	.01	0	0	9.28
1960	.05	.18	.72	1.87	1.78	1.37	.60	1.24	.03	0	0	0	7.84

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1.80	16.28
1951	1205	228	May 2, 1951	0	2.31	1.54	20.89	2.21	20.00
1952	1235	104	Mar. 10, 1952	0	1.39	.927	12.64	1.18	10.69
1953	1275	108	Jan. 27 or 28	0	.68	.453	6.18	.68	6.12
1954	1335	30	Apr. 16, 1954	0	.24	.16	2.18	.25	2.26
1955	1385	41	Mar. 21, 1955	0	.75	.500	6.76	.74	6.68
1956	1435	66	Apr. 2, 1956	0	1.26	.840	11.49	1.31	11.92
1957	1505	94	Apr. 4, 1957	0	.88	.587	7.95	1.00	9.07
1958	1555	374	June 13, 1958	0	1.53	1.02	13.86	1.40	12.69
1959	1625	62	Jan. 21, 1959	0	1.04	.687	9.28	1.09	9.85
1960	1705	152	Jan. 15, 1960	0	.86	.573	7.84	-	-

2375. Ohio Brush Creek near West Union, Ohio

Location.--Lat 38°48'13", long 83°25'16", on right bank at downstream side of bridge on State Highway 348, 0.3 mile downstream from Cedar Run, 2 miles southwest of Cedar Mills, and 7 miles east of West Union, Adams County.

Drainage area.--388 sq mi.

Records available.--August 1926 to November 1935, September 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 510.6 ft above mean sea level, adjustment of 1912. Prior to Nov. 22, 1940, chain gage at same site and datum.

Average discharge.--29 years (1926-35, 1940-60), 440 cfs.

Extremes.--1926-35, 1940-60: Maximum discharge, 51,600 cfs Mar. 19, 1943 (gage height, 26.5 ft), from rating curve extended above 22,000 cfs on basis of slope-area measurement of peak flow; no flow Sept. 13-23, 27, 28, 1955.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	164	596	911	2,290	1,989	1,060	697	211	36.5	37.9	4.68	1.96	659
1952	5.96	255	1,273	1,295	730	1,056	418	110	26.9	21.0	30.4	26.5	438
1953	5.08	5.65	193	791	201	888	510	413	87.2	28.3	40.5	.43	265
1954	5.13	.28	228	104	24.9	422	272	116	184	442	280	33.5	158
1955	65.4	47.7	316	367	1,628	1,487	253	270	120	165	35.8	36.3	408
1956	152	243	154	336	1,920	1,325	885	427	203	222	88.2	309	516
1957	33.2	159	538	764	1,236	313	1,287	250	427	40.8	4.45	46.1	418
1958	10.3	563	1,294	435	214	342	1,004	807	247	807	831	340	578
1959	84.5	202	429	1,475	798	639	394	86.5	23.7	316	66.0	37.0	378
1960	222	449	668	706	962	498	148	332	165	165	59.1	7.41	364

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.49	1.71	2.71	6.80	5.34	3.15	2.01	0.63	0.10	0.11	0.01	0.006	23.07
1952	.02	.73	3.78	3.85	2.03	3.14	1.20	.33	.08	.06	.09	.08	15.39
1953	.02	.02	.57	2.35	.54	2.64	1.46	1.22	.25	.08	.12	.001	9.27
1954	.0004	.0008	.007	.31	.07	1.26	.78	.34	.53	1.31	.83	.10	5.54
1955	.19	.14	.94	1.09	4.90	4.42	.73	.80	.34	.49	.11	.10	14.25
1956	.45	.70	.46	1.00	5.34	3.93	2.54	1.27	.58	.66	.26	.89	18.08
1957	.10	.46	1.60	2.27	3.32	.93	3.70	.74	1.23	.12	.01	.13	14.61
1958	.03	1.62	5.85	1.29	.57	1.02	2.89	2.40	.71	2.40	2.47	.98	20.23
1959	.25	.58	1.28	4.38	2.14	1.90	1.14	.26	.07	.94	.20	.11	13.25
1960	1.66	1.29	1.98	2.10	2.68	1.48	.43	.99	.47	.49	.18	.02	12.77

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	779	27.24
1951	1205	26,900	Jan. 15, 1951	-	659	1.70	23.07	649	22.69
1952	1235	16,600	Mar. 22, 1952	0.4	438	1.13	15.39	326	11.47
1953	1275	15,000	Mar. 3, 1953	.2	265	.683	9.27	249	8.67
1954	1335	15,500	July 21, 1954	.1	158	.407	5.54	194	6.80
1955	1385	24,100	Feb. 27, 1955	0	408	1.05	14.25	417	14.59
1956	1435	18,600	Apr. 3, 1956	10.0	516	1.33	18.08	531	18.63
1957	1505	26,400	Apr. 4, 1957	.2	418	1.08	14.61	513	17.95
1958	1555	26,400	Aug. 1, 1958	1.5	578	1.49	20.23	481	16.84
1959	1625	20,700	Jan. 22, 1959	2.3	378	.974	13.25	451	15.07
1960	1705	17,400	Feb. 11, 1960	1.8	364	.938	12.77	-	-

2380. Ohio River near Maysville, Ky.

Location (revised).--Lat 38°38'05", long 83°42'11", on left bank at lock and dam 33, 1.8 miles upstream from city limits of Maysville, Mason County, 2.2 miles downstream from Cabin Creek, and at mile 405.1.

Drainage area.--70,130 sq mi, approximately.

Records available.--January 1939 to September 1960 (fragmentary prior to October 1940).

Gage.--Staff gage. Datum of gage is 452.57 ft above mean sea level, Ohio River datum. Auxiliary staff gage at lock and dam 34, 29.0 miles downstream.

Average discharge.--20 years (1940-60), 91,730 cfs.

Extremes.--1939-60: Maximum discharge, 635,000 cfs Apr. 17, 1948; maximum gage height, 65.5 ft Mar. 9, 1945; minimum discharge not determined.

Maximum stage known, 75.3 ft Jan. 27, 1937 (discharge, 820,000 cfs, estimated).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	31,400	99,960	221,700	215,500	271,500	221,900	209,200	105,500	85,550	43,450	13,450	14,000	126,900
1952	10,680	46,510	142,900	262,300	201,900	149,600	138,700	38,800	20,230	18,190	12,100		104,200
1953	8,055	16,300	45,350	118,300	121,800	146,700	130,300	132,100	63,940	26,130	16,320	10,000	69,340
1954	6,448	8,200	21,690	53,750	53,260	125,200	124,000	83,960	38,600	35,810	36,270	17,050	50,370
1955	87,130	42,330	83,190	131,800	184,800	367,200	105,100	64,850	35,020	23,060	24,970	10,480	96,470
1956	24,100	47,390	37,490	25,230	275,800	285,200	217,800	152,300	116,000	81,010	88,550	48,560	115,800
1957	24,100	29,170	127,900	141,300	233,200	117,100	223,200	71,400	41,300	36,280	10,650	15,080	88,160
1958	17,280	38,540	144,000	107,800	93,790	139,300	187,000	235,800	62,760	133,200	114,500	38,590	109,800
1959	23,350	35,880	48,710	168,600	195,800	130,400	150,800	99,510	39,930	23,060	20,870	12,920	78,400
1960	34,490	60,980	135,600	151,100	155,100	97,190	190,100	93,970	53,780	32,180	23,390	20,830	87,090

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.52	1.59	3.64	3.54	4.03	3.65	3.33	1.73	1.36	0.71	0.22	0.22	24.54
1952	.18	.74	2.35	4.31	3.23	3.32	2.38	2.28	.62	.33	.30	.19	20.23
1953	.13	.26	.75	1.94	1.81	2.41	2.07	2.17	1.02	.43	.27	.16	13.42
1954	.11	.13	.36	.68	.79	2.06	1.97	1.38	.61	.59	.60	.27	9.75
1955	1.43	.67	1.37	2.17	2.74	6.04	1.67	1.07	.56	.38	.41	.17	18.68
1956	.40	.75	.62	.41	4.24	4.69	3.47	2.50	1.85	1.33	1.46	.77	22.49
1957	.40	.46	2.10	2.32	3.46	1.92	3.55	1.17	.66	.60	.17	.24	17.05
1958	.28	.61	2.37	1.77	1.39	2.29	2.97	3.87	1.00	2.19	1.88	.61	21.23
1959	.38	.57	.80	2.77	2.91	2.14	2.40	1.64	.64	.38	.34	.21	15.18
1960	.57	.97	2.23	2.48	2.39	1.60	3.02	1.54	.86	.53	.38	.33	16.90

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1950	-	-	-	-	-	-	-	132,800
1951	1205	500,000	Dec. 10, 1950	-	126,900	1.81	24.54	114,000
1952	1235	529,000	Jan. 31, 1952	-	104,200	1.49	20.23	93,280
1953	1275	229,000	Mar. 28, 1953	-	69,340	.989	13.42	66,530
1954	1335	247,000	Mar. 6, 1954	-	50,370	.718	9.75	65,250
1955	1385	575,000	Mar. 9, 1955	-	96,470	1.38	18.68	67,650
1956	1435	444,000	Mar. 17, 1956	-	115,800	1.65	22.49	122,000
1957	1505	418,000	Apr. 11, 1957	-	88,160	1.26	17.05	89,720
1958	1555	534,000	May 10, 1958	-	109,800	1.57	21.23	102,000
1959	1625	489,000	Jan. 25, 1959	-	78,400	1.12	15.18	88,790
1960	1705	364,000	Apr. 8, 1960	-	87,090	1.24	16.90	-

2385. Whiteoak Creek near Georgetown, Ohio

Location.--Lat 38°50'42", long 83°55'16", on left bank at upstream side of bridge on State Highway 221, 600 ft downstream from Opossum Run, 1½ miles southwest of Georgetown, Brown County, and 6½ miles upstream from mouth.

Drainage area.--221 sq mi.

Records available.--October 1923 to November 1935, October 1939 to September 1960.

Gage.--Water-stage recorder and wire-weight gage. Datum of gage is 569.21 ft above mean sea level, adjustment of 1912. Prior to Feb. 8, 1940, and Dec. 9, 1948, to Sept. 30, 1949, chain, staff, or wire-weight gages and Feb. 8, 1940, to Dec. 8, 1948, water-stage recorder, at same site at datum 8.00 ft higher. Oct. 1, 1949, to Nov. 6, 1950, wire-weight gage at same site and datum.

Average discharge.--33 years (1923-35, 1939-60), 248 cfs.

Extremes.--1923-35, 1939-60: Maximum discharge, 20,500 cfs May 14, 1933 (gage height, 20.87 ft, present datum), from rating curve extended above 10,000 cfs by logarithmic plotting; no flow at times in 1930, 1940-41, 1943, 1948, 1951, 1953, 1959.

Remarks.--Flow supplemented at times by release from Lake Grant on Sterling Run.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	107	459	562	1,289	1,023	690	421	74.7	13.8	8.79	1.35	4.81	584
1952	3.01	80.3	772	813	381	672	251	33.1	34.5	26.3	49.7	38.1	264
1953	2.74	5.99	143	610	103	454	271	250	22.4	31.2	9.52	.48	160
1954	.93	1.09	4.27	44.2	16.7	262	157	49.0	87.7	176	171	9.95	82.4
1955	62.8	22.2	243	308	1,281	799	173	94.3	49.7	41.1	92.0	56.8	262
1956	153	161	90.6	234	1,195	814	505	228	119	70.4	44.0	148	510
1957	7.27	27.7	206	476	660	115	818	99.7	227	31.0	62.8	13.8	225
1958	6.73	435	840	266	103	233	669	422	86.0	373	404	90.4	329
1959	18.1	76.4	154	829	508	345	161	52.2	16.7	84.0	12.2	37.2	190
1960	16.1	95.8	352	412	555	305	96.5	249	196	137	16.7	12.2	203

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.56	2.32	2.93	6.72	4.82	3.60	2.12	0.39	0.07	0.05	0.007	0.02	23.61
1952	.02	.40	4.02	4.24	1.86	3.50	1.27	.17	.17	.14	.28	.19	16.24
1953	.01	.03	.75	3.18	.49	2.36	1.37	1.30	.11	.16	.05	.002	9.81
1954	.005	.005	.02	.23	.08	1.37	.79	.26	.44	.92	.89	.05	5.06
1955	.53	.11	1.27	1.60	6.04	4.17	.87	.49	.25	.21	.48	.29	16.11
1956	.80	.81	.47	1.22	5.84	4.24	2.56	1.19	.60	.37	.23	.75	19.08
1957	.04	.14	1.07	2.48	3.11	.60	4.13	.52	1.15	.16	.33	.07	13.80
1958	.03	2.20	4.38	1.38	.49	1.21	3.38	2.20	.43	1.95	2.11	.46	20.22
1959	.09	.39	.80	4.32	2.40	1.80	.81	.27	.08	.44	.06	.19	11.65
1960	.08	.48	1.83	2.14	2.71	1.59	.49	1.30	.99	.71	.09	.06	12.47

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	462	28.34
1951	1205	11,300	Jan. 15, 1951	0	384	1.74	23.61	362	22.24
1952	1235	8,850	Mar. 22, 1952	.1	264	1.19	16.24	205	12.59
1953	1275	7,950	Jan. 29, 1953	0	160	.724	9.81	148	9.05
1954	1335	4,660	July 22, 1954	.1	82.4	.373	5.06	110	6.74
1955	1385	8,830	Feb. 27, 1955	.1	262	1.19	16.11	268	16.48
1956	1435	7,430	Mar. 8, 1956	1.5	310	1.40	19.08	296	18.25
1957	1505	14,000	Apr. 5, 1957	.1	225	1.02	13.80	312	19.16
1958	1555	13,000	Aug. 2, 1958	1.8	329	1.49	20.22	243	14.89
1959	1625	11,800	Jan. 22, 1959	.1	190	.860	11.65	208	12.76
1960	1705	7,500	Feb. 11, 1960	.4	203	.919	12.47	-	-

2390. Little Miami River near Selma, Ohio

Location.--Lat 39°48'40", long 83°44'20", on left bank at downstream side of bridge on Selma Pike, 2.3 miles northwest of Selma, Clark County, and 3.1 miles upstream from North Fork.

Drainage area.--50.6 sq mi.

Records available.--August 1952 to September 1958, water years 1959-60 (annual maximum).

Gage.--Water-stage recorder. Datum of gage is 1,019.79 ft above mean sea level, unadjusted.

Average discharge.--6 years (1952-58), 35.4 cfs.

Extremes.--1952-60: Maximum discharge, 7,920 cfs Jan. 21, 1959 (gage height, 9.42 ft), on basis of contracted-opening measurement of peak flow.
1952-58: Minimum discharge, 0.6 cfs July 31, 1954, Sept. 9, 10, 1955; minimum gage height, 1.39 ft Sept. 2, 5-7, 1957.

Remarks.--Records of chemical analyses for the period August 1952 to September 1954, suspended sediment loads and water temperatures for the period August 1952 to September 1958, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	1.92	-
1953	2.74	4.37	8.64	46.2	43.3	44.9	28.5	28.0	12.9	8.75	15.0	2.19	20.4
1954	1.61	2.27	2.59	4.43	6.43	15.5	38.2	12.9	10.0	2.19	3.09	1.95	8.40
1955	8.45	4.98	14.8	36.6	102	133	31.7	11.1	7.29	12.2	2.47	1.85	30.2
1956	3.79	56.4	20.6	15.6	146	97.3	79.0	64.1	29.8	8.80	4.35	2.88	43.5
1957	2.11	5.38	9.81	21.6	47.1	21.5	171	55.0	57.1	45.8	4.75	3.72	36.6
1958	3.55	†17.1	110	62.2	31.9	44.6	56.6	72.6	143	133	182	17.7	73.4
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	0.04	-
1953	0.06	0.10	0.20	1.05	0.89	1.02	0.63	0.64	0.28	0.20	0.34	0.05	5.46
1954	.04	.05	.06	.10	.13	.35	.84	.29	.22	.05	.07	.04	2.24
1955	.19	.11	.34	.83	2.10	3.03	.70	.25	.16	.28	.06	.04	8.09
1956	.09	1.24	.47	.36	3.12	2.21	1.74	1.46	.66	.20	.10	.06	11.71
1957	.05	.07	.22	.49	.97	.49	3.77	1.26	1.26	1.04	.11	.08	9.81
1958	.08	.38	2.50	1.42	.66	1.02	1.25	1.65	3.16	3.03	4.15	.39	19.69
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1275	-	-	-	-	-	-	-	-
1953	1275	380	Jan. 17, 1953	-	1.1	20.4	0.403	5.48	19.6
1954	1335	166	Apr. 16, 1954	-	.7	8.40	.166	2.24	10.2
1955	1385	1,240	Mar. 22, 1955	-	.8	30.2	.597	8.09	34.5
1956	1435	1,080	Nov. 16, 1956	-	1.7	43.5	.860	11.71	38.1
1957	1505	1,890	Apr. 4, 1957	-	1.7	36.6	.723	9.81	46.4
1958	1555	3,500	Aug. 3, 1958	-	2.3	73.4	1.45	19.69	-
1959	1625	7,920	Jan. 21, 1959	-	-	-	-	-	-
1960	1705	400	Feb. 10, 1960	-	-	-	-	-	-

2395. North Fork Little Miami River near Pitchin, Ohio

Location.--Lat 39°49'40", long 83°46'25", on right bank at upstream side of county highway bridge, 1.1 miles upstream from Goose Creek, and 1.3 miles southwest of Pitchin, Clark County.

Drainage area.--29.1 sq mi.

Records available.--June 1952 to September 1958, water years 1959-60 (annual maximum).

Gage.--Water-stage recorder. Datum of gage is 1,011.46 ft above mean sea level, unadjusted.

Average discharge.--6 years (1952-58), 17.6 cfs.

Extremes.--1952-60: Maximum discharge, 3,350 cfs Jan. 21, 1959 (gage height, 7.58 ft), on basis of contracted-opening measurement of peak flow.
1952-58: Minimum discharge, 0.3 cfs Sept. 26, 27, 1954; minimum gage height, 0.65 ft Sept. 27, 1957.

Remarks.--Records of suspended sediment loads and water temperatures for the period August 1952 to September 1958 and chemical analyses for the period October 1953 to September 1954 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	7.19	2.45	1.70	-
1953	2.31	2.15	5.01	21.7	22.7	26.1	16.5	16.4	7.76	4.29	7.21	1.07	11.1
1954	1.18	1.40	1.55	2.97	3.99	7.74	18.6	7.09	6.37	1.82	1.87	†.88	4.60
1955	5.00	3.37	7.47	19.2	53.6	58.0	18.9	7.32	4.79	4.10	1.52	.88	15.1
1956	2.41	29.8	12.7	11.2	71.4	52.7	46.7	32.8	15.8	8.09	3.39	2.12	23.8
1957	1.84	3.03	5.86	8.43	17.0	10.4	78.4	26.7	18.3	19.8	4.34	2.84	16.3
1958	2.94	9.44	46.1	31.6	17.4	22.6	27.6	34.5	75.2	45.1	84.6	14.1	34.4
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	0.28	0.10	0.06	-
1953	0.09	0.08	0.20	0.86	0.81	1.03	0.63	0.65	0.30	.17	.29	.04	5.15
1954	.05	.05	.06	.12	.14	.31	.71	.28	.24	.07	.07	.03	2.13
1955	.20	.13	.30	.76	1.92	2.29	.72	.29	.18	.16	.06	.03	7.04
1956	.10	1.14	.50	.44	2.64	2.09	1.78	1.30	.61	.32	.13	.08	11.13
1957	.07	.12	.23	.33	.61	.41	3.00	1.06	.70	.78	.17	.11	7.59
1958	.12	.36	1.82	1.26	.62	.90	1.06	1.37	2.88	1.79	3.36	.54	16.08
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1275	-	-	-	-	-	-	-	-
1953	1275	132	Jan. 18, 1953	0.7	11.1	0.381	5.15	10.6	4.94
1954	1335	63	June 17, 1954	.5	4.60	.158	2.13	5.59	2.60
1955	1385	390	Mar. 22, 1955	.4	15.1	.519	7.04	17.5	8.15
1956	1455	390	Nov. 16, 1955	1.4	23.8	.818	11.13	21.0	9.81
1957	1505	660	Apr. 4, 1957	1.5	16.3	.560	7.59	20.3	9.47
1958	1555	955	Aug. 3, 1958	2.1	34.4	1.18	16.08	-	-
1959	1625	3,350	Jan. 21, 1959	-	-	-	-	-	-
1960	1705	150	May 28, 1960	-	-	-	-	-	-

2400. Little Miami River near Oldtown, Ohio

Location.--Lat 39°44'55", long 83°55'50", on right bank at downstream side of bridge on U.S. Highway 68, 0.9 mile upstream from Massie Creek, 1.3 miles northeast of Oldtown, Greene County, and 4.5 miles north of Xenia

Drainage area.--129 sq mi.

Records available.--July 1952 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 816.56 ft above mean sea level, datum of 1929.

Average discharge.--8 years (1952-60), 89.8 cfs.

Extremes.--1952-60: Maximum discharge, 14,800 cfs Jan. 21, 1959 (gage height, 12.20 ft), from rating curve extended above 4,400 cfs on basis of slope-area measurement of peak flow; minimum, 5.4 cfs July 29, 1954 (gage height, 1.04 ft), result of temporary storage at rock dam upstream.

Remarks.--Records of chemical analyses for the periods November 1947 to August 1948, August 1952 to September 1954, suspended sediment loads and water temperatures for the period August 1952 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	15.8	15.3	-
1953	16.4	17.2	32.1	109	110	124	79.5	73.6	40.4	23.6	31.6	9.14	55.3
1954	9.46	11.0	11.5	18.2	20.9	35.1	96.0	55.2	77.9	10.6	12.2	9.69	28.6
1955	30.5	19.8	43.8	89.4	246	298	90.2	41.9	27.9	26.4	11.3	9.68	76.9
1956	14.5	120	54.1	46.9	322	236	227	151	88.2	45.3	24.0	17.4	111
1957	14.5	20.7	40.3	58.2	106	58.2	422	145	109	91.9	20.3	18.1	91.3
1958	16.6	44.0	236	163	85.2	111	151	169	329	229	385	71.7	168
1959	44.9	49.1	61.2	497	300	181	109	129	48.7	35.6	48.0	22.6	127
1960	20.3	25.9	54.2	108	151	83.9	85.8	80.6	54.1	31.6	16.4	11.1	59.9

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	0.14	0.13	-
1953	0.15	0.15	0.29	0.97	0.89	1.11	0.69	0.66	0.35	0.21	.28	.08	5.83
1954	.08	.09	.10	.15	.17	.31	.83	.51	.67	.09	.11	.08	2.99
1955	.27	.17	.39	.80	1.99	2.66	.78	.37	.24	.24	.10	.08	8.09
1956	.13	1.04	.48	.42	2.70	2.11	1.96	1.35	.76	.40	.21	.15	11.71
1957	.13	.18	.36	.52	.86	.52	3.65	1.29	.94	.82	.18	.16	9.61
1958	.15	.38	2.11	1.45	.69	.99	1.30	1.70	2.84	3.44	.62	.62	17.72
1959	.40	.43	.55	4.44	2.43	1.61	.94	1.15	.42	.32	.43	.20	13.32
1960	.18	.22	.48	.96	1.26	.75	.74	.72	.47	.28	.15	.10	6.31

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1235	-	-	-	-	-	-	-	-
1953	1235	625	Mar. 4, 1953	7.4	55.3	0.429	5.83	52.5	5.51
1954	1335	4,720	June 8, 1954	7.0	28.6	.222	2.39	33.9	3.56
1955	1385	1,860	Mar. 22, 1955	6.9	76.9	.596	8.09	84.6	8.91
1956	1435	1,530	Apr. 3, 1956	11	111	.860	11.71	102	10.73
1957	1505	3,880	Apr. 4, 1957	12	91.3	.708	9.61	110	11.58
1958	1555	4,390	Aug. 3, 1958	15	186	1.30	17.72	156	16.46
1959	1625	14,800	Jan. 21, 1959	17	127	.984	13.32	122	12.82
1960	1705	690	Feb. 11, 1960	8.2	59.9	.464	6.31	-	-

2405. North Fork Massie Creek at Cedarville, Ohio

Location.--Lat 39°45'25", long 83°47'25", on left bank at downstream side of bridge on James Barber Road, 1 mile upstream from confluence with South Fork and 1 mile northeast of Cedarville, Greene County.

Drainage area.--25.6 sq mi.

Records available.--July 1954 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,028.00 ft above mean sea level, unadjusted.

Average discharge.--6 years (1954-60), 26.3 cfs.

Extremes.--1954-60: Maximum discharge, 2,960 cfs Jan. 21, 1959 (gage height, 8.55 ft), from rating curve extended above 900 cfs on basis of slope-area measurement of peak flow; no flow at times in 1954-55.

Remarks.--Records of water temperatures and suspended sediment loads for the period July 1954 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	0.89	0.26	0.18	-
1955	2.58	2.06	6.95	15.5	65.1	81.1	14.7	6.52	6.73	11.5	.92	.49	17.6
1956	4.69	30.6	13.2	10.4	90.2	56.4	51.4	30.7	14.4	10.1	3.89	3.06	26.3
1957	1.35	2.38	17.5	24.4	42.5	18.5	104	33.5	46.2	29.4	2.67	1.50	26.5
1958	1.52	12.8	69.0	40.9	18.9	25.9	34.0	43.4	109	78.4	94.3	9.42	45.0
1959	6.34	7.79	14.6	118	64.8	39.1	19.8	34.4	7.17	3.86	13.2	2.06	27.4
1960	1.84	5.74	17.5	26.9	39.8	23.0	21.2	18.9	10.5	10.3	2.24	.77	14.8

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	0.04	0.01	0.008	-
1955	0.12	0.09	0.31	0.70	2.64	3.66	0.64	0.29	0.29	.52	.04	.02	9.32
1956	.21	1.34	.59	.47	3.80	2.54	2.24	1.38	.63	.46	.18	.13	13.97
1957	.06	.10	.79	1.10	1.73	.74	4.53	1.51	2.01	1.33	.12	.07	14.09
1958	.07	.56	3.11	1.84	.77	1.16	1.48	1.96	4.75	3.53	4.24	.41	23.88
1959	.29	.34	.66	5.32	2.64	1.76	.88	1.54	.31	.17	.59	.09	14.57
1960	.08	.25	.79	1.21	1.67	1.04	.92	.85	.46	.46	.10	.03	7.86

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	1385	-	-	-	-	-	-	-	-
1955	1385	480	Mar. 22, 1955	0	17.6	0.688	9.32	20.6	10.94
1956	1435	396	Apr. 3, 1956	1.2	26.3	1.03	13.97	24.0	12.78
1957	1505	970	Apr. 4, 1957	.8	26.5	1.04	14.09	31.8	16.88
1958	1555	1,620	Aug. 2, 1958	1.3	45.0	1.76	23.88	40.4	21.43
1959	1625	2,960	Jan. 21, 1959	1.4	27.4	1.07	14.57	27.1	14.40
1960	1705	226	Feb. 10, May 27	.5	14.8	.578	7.86	-	-

2410. South Fork Massie Creek near Cedarville, Ohio

Location--Lat 39°44'20", long 83°45'50", on right bank at downstream side of bridge on Welmer Road, 2.3 miles east of Cedarville, Greene County, and 2.4 miles upstream from confluence with North Fork.

Drainage area--20.2 sq mi.

Records available--July 1954 to September 1960.

Gage--Water-stage recorder. Datum of gage is 1,039.14 ft above mean sea level, unadjusted.

Average discharge--6 years (1954-60), 18.9 cfs.

Extremes--1954-60: Maximum discharge, 2,440 cfs Jan. 21, 1959 (gage height, 8.27 ft), from rating curve extended above 500 cfs on basis of slope-area measurement of peak flow; no flow at times in 1954-55, 1957.

Remarks--Records of chemical analyses and suspended sediment loads for the period July 1954 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	0.54	0.15	0.05	-
1955	0.84	0.71	2.58	9.47	48.8	56.5	9.13	5.22	5.67	5.01	3.85	.47	12.1
1956	3.88	28.0	8.95	9.14	70.1	37.9	42.7	19.4	10.9	7.16	1.67	.89	19.8
1957	.38	.72	9.03	15.7	33.7	10.5	76.8	29.2	37.2	16.7	1.05	.27	19.1
1958	.52	10.1	57.2	28.4	12.4	15.9	29.5	37.6	86.2	53.5	55.2	4.45	32.7
1959	2.70	5.20	7.72	87.2	53.4	27.5	12.7	24.1	3.60	1.08	8.69	.45	19.2
1960	.42	1.77	11.0	21.8	29.8	15.1	13.5	18.3	6.93	6.77	1.08	.21	10.5

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	0.03	0.009	0.903	-
1955	0.05	0.04	0.15	0.54	2.52	3.23	0.50	0.30	0.31	.29	.22	.03	8.18
1956	.22	1.55	.51	.52	3.74	2.17	2.35	1.11	.60	.41	.10	.05	13.33
1957	.02	.04	.52	.90	1.74	.60	4.24	1.67	2.05	.95	.06	.01	12.80
1958	.03	.56	3.26	1.63	.64	.91	1.63	2.14	4.76	3.06	3.15	.25	22.02
1959	.15	.18	.44	4.98	2.75	1.57	.70	1.37	.20	.06	.50	.02	12.92
1960	.02	.10	.63	1.24	1.60	.86	.75	1.04	.38	.39	.06	.01	7.08

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	1335	-	-	-	-	-	-	-	-
1955	1385	508	Mar. 22, 1955	0.1	12.1	0.599	8.18	15.2	10.22
1956	1435	564	Apr. 3, 1956	.3	19.8	.980	13.33	17.3	11.63
1957	1505	685	Apr. 4, 1957	0	19.1	.946	12.80	23.9	16.07
1958	1555	1,130	Aug. 2, 1958	.2	32.7	1.62	22.02	28.1	18.94
1959	1625	2,440	Jan. 21, 1959	.3	19.2	.950	12.92	19.2	12.90
1960	1705	328	May 27, 1960	.1	10.5	.520	7.08	-	-

2415. Massie Creek at Wilberforce, Ohio

Location.--Lat 39°43'20", long 83°52'55", on right bank at upstream side of bridge on Wilberforce-Clinton road, 0.5 mile northwest of Wilberforce, Greene County, 1.7 miles upstream from Clark Run, and 3.5 miles northeast of Xenia.

Drainage area.--64.3 sq mi.

Records available.--September 1952 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 865.30 ft above mean sea level, unadjusted.

Average discharge.--8 years (1952-60), 48.7 cfs.

Extremes.--1952-60: Maximum discharge, 7,300 cfs Jan. 21, 1959 (gage height, 11.25 ft), from rating curve extended above 2,100 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.3 cfs Sept. 3-7, 1954; minimum gage height, 1.41 ft July 31, 1954.

Remarks.--Records of chemical analyses for the period September 1952 to September 1954 and suspended sediment loads and water temperatures for the period September 1952 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	2.95	-
1953	3.88	5.79	16.1	78.4	68.9	53.5	34.1	33.9	13.6	3.56	1.49	1.05	26.0
1954	1.55	1.95	2.35	5.62	6.41	13.1	37.5	12.8	18.0	1.75	2.38	1.20	8.68
1955	5.07	4.74	13.2	32.8	131	168	34.7	15.2	14.2	17.3	6.74	3.59	36.7
1956	13.9	80.7	31.2	27.1	209	124	130	67.1	37.8	29.6	9.39	6.51	63.2
1957	4.28	7.69	34.3	50.9	86.3	39.7	238	75.5	85.3	53.2	7.97	5.45	57.5
1958	5.67	30.0	153	90.7	40.4	52.8	84.7	112	235	174	196	25.2	100
1959	16.8	18.7	32.7	273	138	87.8	48.5	75.9	18.9	9.16	32.6	5.18	63.0
1960	5.65	13.0	40.4	65.8	87.0	50.1	48.6	51.8	25.1	20.2	4.69	2.73	34.4

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	0.05	-
1953	0.07	0.10	0.29	1.41	1.11	0.96	0.59	0.61	0.24	0.08	0.03	0.02	5.49
1954	0.03	0.03	0.04	0.10	0.10	0.24	0.65	0.23	0.31	0.03	0.04	0.02	1.82
1955	0.09	0.08	0.24	0.59	2.12	3.01	0.60	0.27	0.25	0.31	0.12	0.06	7.74
1956	0.25	1.41	0.56	0.49	3.50	2.22	2.25	1.20	0.66	0.53	0.17	0.11	13.35
1957	0.08	0.13	0.61	0.91	1.56	0.71	4.10	1.35	1.48	0.95	0.14	0.09	12.11
1958	0.10	0.52	2.74	1.63	0.65	0.95	1.47	2.01	4.07	3.12	3.52	0.44	21.22
1959	0.30	0.32	0.59	4.90	2.24	1.58	0.84	1.36	0.33	0.16	0.58	0.09	13.29
1960	0.10	0.23	0.72	1.18	1.46	0.90	0.84	0.93	0.44	0.36	0.08	0.05	7.29

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1275	-	-	-	-	-	-	-	-
1953	1275	390	Jan. 18, 1953	0.9	26.0	0.404	5.49	24.3	5.13
1954	1355	258	Aug. 27, 1954	0.3	8.68	0.135	1.82	10.1	2.13
1955	1385	1,090	Mar. 22, 1955	1.3	36.7	0.571	7.74	45.2	9.55
1956	1435	1,250	Apr. 3, 1956	4.1	63.2	0.983	13.35	56.6	11.95
1957	1505	2,160	Apr. 4, 1957	2.7	57.5	0.894	12.11	69.5	14.65
1958	1555	4,300	Aug. 2, 1958	3.6	100	1.56	21.22	90.3	19.07
1959	1625	7,300	Jan. 21, 1959	2.9	63.0	0.980	13.29	62.2	13.13
1960	1705	510	May 28, 1960	2.0	34.4	0.535	7.29	-	-

LITTLE MIAMI RIVER BASIN

2420. Little Miami River at Spring Valley, Ohio

Location.--Lat 39°36'20", long 84°00'50", in SW $\frac{1}{4}$ sec.18, R.5, T.4, on right bank at downstream side of bridge on U.S. Highway 42, three-eighths of a mile southwest of Spring Valley and 2 $\frac{1}{2}$ miles downstream from Sugar Creek.

Drainage area.--361 sq mi.

Records available.--September 1925 to December 1935, October 1939 to December 1951.
Monthly discharge only for December 1935, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 737.9 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers). Prior to Dec. 12, 1939, chain gage at same site and datum.

Average discharge.--22 years (1925-35, 1939-51), 370 cfs.

Extremes:--1925-35, 1939-51: Maximum discharge, 18,400 cfs Feb. 26, 1929 (gage height, 16.8 ft); minimum, 23 cfs July 27, 1934.

Flood of Jan. 21, 1959, reached a stage of 19.0 ft, from floodmark (discharge, 36,400 cfs, on basis of contracted-opening measurement of peak flow).

Monthly and yearly mean discharge, in cubic feet per second

[illegible]

Monthly and yearly runoff, in inches

[illegible]

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	674	25.33
1951	1205	12,400	Dec. 3, 1950	68	599	1.66	22.50	501	18.82
1952	1235	-	-	-	-	-	-	-	-

2425. Little Miami River near Fort Ancient, Ohio

Location.--Lat 39°22'42", long 84°05'32", in sec.2, R.3, T.5, on right bank at downstream side of county highway bridge, 2 miles south of Fort Ancient, 2½ miles northeast of Morrow, and 2¼ miles upstream from Todd Fork.

Drainage area.--677 sq mi.

Records available.--October 1938 to December 1951. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 643.65 ft above mean sea level, adjustment of 1912.

Average discharge.--13 years (1938-51), 697 cfs.

Extremes.--1938-51: Maximum discharge, 32,900 cfs Mar. 7, 1945 (gage height, 16.80 ft); minimum, 26 cfs Sept. 26, 30, 1941; minimum gage height, 1.03 ft Oct. 9, 1946.

Flood of Jan. 21, 1959, reached a stage of 21.9 ft. from floodmark (discharge, 67,000 cfs, from rating curve extended above 26,000 cfs by logarithmic plotting).

Monthly and yearly mean discharge, in cubic feet per second

[illegible]

Monthly and yearly runoff, in inches

[illegible]

Yearly discharge, in cubic feet per second, of Little Miami River near Fort Ancient, Ohio

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,216	24.39
1951	1205	18,600	Dec. 4, 1950	76	1,069	1.58	21.44	903	18.11
1952	1235	-	-	-	-	-	-	-	-

2440. Todd Fork near Roachester, Ohio

Location.--Lat 39°20'05", long 84°05'10", on right bank at downstream side of bridge on State Highway 123, 0.3 mile downstream from Lick Run, 1.6 miles southeast of Roachester, Warren County, 2½ miles southeast of Morrow, and 4 miles upstream from mouth.

Drainage area.--219 sq mi.

Records available.--September 1952 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 679.40 ft above mean sea level, adjustment of 1929.

Average discharge.--8 years (1952-60), 207 cfs.

Extremes.--1952-60: Maximum discharge, 25,500 cfs Jan. 21, 1959 (gage height, 19.50 ft), from rating curve extended above 12,000 cfs on basis of contracted-opening measurement of peak flow; no flow for part of each day Sept. 1, 2, 1953.

Remarks.--Some regulation by Cowan Lake on Cowan Creek (capacity, 12,000 acre-ft). Records of chemical analyses for the period September 1952 to September 1954 and water temperatures and suspended sediment loads for the period September 1952 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	3.84	-
1953	1.16	2.26	32.8	394	155	221	134	398	139	16.7	1.81	1.55	125
1954	.29	2.48	2.90	76.9	33.0	97.9	198	123	30.2	374	120	6.47	89.5
1955	9.06	12.4	141	243	847	744	136	32.4	13.7	83.1	10.0	19.3	187
1956	56.5	239	158	132	909	570	510	89.8	109	150	43.4	66.5	249
1957	3.43	11.1	199	439	538	121	965	293	436	114	7.71	17.7	259
1958	6.40	335	905	393	157	115	375	324	468	852	402	63.9	369
1959	63.8	34.9	66.1	964	567	293	156	178	64.4	130	19.6	10.4	211
1960	7.52	145	259	437	466	193	135	217	127	45.1	6.36	1.59	169

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1275	-	-	-	-	-	-	-	-
1953	1275	4,280	Jan. 17, 1953	0.1	125	-	-	123	-
1954	1335	13,400	July 21, 1954	.2	89.5	-	-	103	-
1955	1385	7,770	Mar. 22, 1955	.7	187	-	-	211	-
1956	1435	9,050	Apr. 2, 1956	3.5	249	-	-	230	-
1957	1505	10,700	Apr. 4, 1957	.6	259	-	-	345	-
1958	1555	14,500	July 22, 1958	1.3	369	-	-	278	-
1959	1625	25,500	Jan. 21, 1959	.8	211	-	-	232	-
1960	1705	6,450	Jan. 15, 1960	.6	169	-	-	-	-

Note.--Figures of discharge in cubic feet per second per square mile and runoff in inches, previously published in some water-supply papers, have been found in error because of regulation by Cowan Lake on Cowan Creek. Those figures are not published herein and should not be used.

2455. Little Miami River at Milford, Ohio

Location.--Lat 39°10'17", long 84°17'53", on right bank 500 ft downstream from Wooster Pike Bridge (U.S. Highway 50) in Milford, Clermont County, and 1¼ miles upstream from East Fork.

Drainage area.--1,195 sq mi.

Records available.--June 1915 to September 1917, October 1917 to May 1920 (gage heights only), March 1925 to September 1936, October 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1305. Published as "at Miamiville" 1915-20.

Gage.--Water-stage recorder. Datum of gage is 499.35 ft above mean sea level, adjustment of 1912. June 22, 1915, to May 14, 1920, chain gage at site 4 miles upstream at different datum. Mar. 11, 1925, to Aug. 16, 1928, chain gage at bridge 500 ft upstream at datum 0.72 ft higher.

Average discharge.--35 years (1915-17, 1925-36, 1938-60), 1,207 cfs.

Extremes.--1915-17, 1925-36, 1938-60: Maximum discharge, 84,100 cfs Jan. 22, 1959 (gage height, 22.30 ft), from rating curve extended above 60,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 27 cfs Sept. 18, 1954; minimum gage height, -0.25 ft Sept. 10, 11, 1955.

Flood in March 1913 reached a stage of 25.5 ft, present datum, from information by Corps of Engineers.

Remarks.--Some regulation by Cowan Lake on Cowan Creek (tributary to Todd Fork) since 1948. Annual figures of runoff are considered to be within 10 percent of natural yield.

Revisions.--Monthly figures of discharge in cubic feet per second per square mile and runoff in inches since 1948, published in some water-supply papers, have been found incorrect because of regulation by Cowan Lake on Cowan Creek, tributary to Todd Fork, and should not be used.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,026	1,959	3,539	4,158	4,482	3,036	2,252	656	797	459	129	161	1,873
1952	106	583	2,775	4,790	2,813	2,869	2,460	1,210	850	249	146	122	1,581
1953	100	120	343	2,034	1,035	1,239	784	1,411	425	210	108	43.0	655
1954	47.0	60.2	75.2	184	145	371	931	552	298	644	240	55.5	301
1955	104	101	357	817	3,426	3,600	787	343	195	315	154	165	849
1956	434	1,337	579	672	4,210	2,677	2,669	863	663	478	249	192	1,236
1957	108	158	590	1,181	2,059	695	4,914	1,569	1,275	574	198	158	1,110
1958	119	1,050	3,381	1,674	664	781	1,770	2,069	2,481	3,542	2,473	517	1,721
1959	302	296	565	5,951	2,829	1,952	922	1,019	450	325	238	122	1,243
1960	111	343	863	1,561	1,936	996	819	884	892	506	159	81.3	759

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	33,800	Dec. 3, 1950	83	1,873	1.57	21.26	2,163	24.57
1952	1235	28,400	Jan. 27, 1952	85	1,581	1.32	17.99	1,617	18.36
1953	1275	19,000	May 22, 1953	31	655	.548	7.43	1,336	15.20
1954	1335	23,400	July 21, 1954	27	301	.252	3.42	623	7.06
1955	1385	24,100	Mar. 22, 1955	39	849	.710	9.63	333	3.78
1956	1435	29,300	Apr. 2, 1956	91	1,236	1.03	14.08	997	11.33
1957	1505	38,800	Apr. 4, 1957	83	1,110	.929	12.59	1,113	12.67
1958	1555	33,100	July 22, 1958	87	1,721	1.44	19.54	1,421	16.13
1959	1625	84,100	Jan. 22, 1959	81	1,243	1.04	14.12	1,436	16.30
1960	1705	15,200	Jan. 15, 1960	48	759	.635	8.64	1,256	14.25

2465. East Fork Little Miami River at Williamsburg, Ohio

Location.--Lat 39°03'10", long 84°03'05", on right bank at downstream side of Main Street Bridge in Williamsburg, Clermont County, 1.1 miles upstream from Todd Run.

Drainage area.--238 sq mi.

Records available.--March 1949 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 784.09 ft above mean sea level, datum of 1929, supplementary adjustment of 1944.

Extremes.--1949-53: Maximum discharge, 10,400 cfs Sept. 20, 1950 (gage height, 11.32 ft); no flow Aug. 25, 26, Sept. 2-9, 12, 1951, Aug. 16 to Sept. 30, 1953.
Flood of Jan. 21, 1959, reached a stage of 12.2 ft, from information by local resident (discharge, 14,000 cfs, from rating curve extended above 6,800 cfs by logarithmic plotting).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	178	464	611	1,110	981	631	395	39.6	59.8	32.0	2.14	15.4	373
1952	1.04	86.7	733	909	406	610	319	142	87.6	21.3	24.2	7.11	280
1953	.85	3.44	103	588	156	312	180	435	37.9	43.0	.79	0	156

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.86	2.17	2.96	5.38	4.29	3.06	1.85	0.19	0.28	0.16	0.01	0.07	21.28
1952	.005	.41	3.55	4.40	1.84	2.95	1.50	.69	.41	.10	.12	.03	16.00
1953	.004	.02	.50	2.85	.68	1.51	.84	2.11	.18	.21	.004	0	8.91

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	462	26.34
1951	1205	8,940	Jan. 4, 1951	0	373	1.57	21.28	338	19.26
1952	1235	6,710	Jan. 27, 1952	.1	280	1.18	16.00	220	12.56
1953	1275	7,720	May 23, 1953	0	156	.655	8.91	-	-

2470. East Fork Little Miami River near Bantam, Ohio

Location.--Lat 39°01'40", long 84°08'00", near left bank on downstream side of pier of highway bridge between Bantam and Afton, 2.1 miles north of Bantam, Clermont County, and 4.1 miles southeast of Batavia.

Drainage area.--331 sq mi.

Records available.--October 1948 to September 1953. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder and staff gage. Datum of gage is 634.43 ft above mean sea level, datum of 1929, supplementary adjustment of 1944.

Extremes.--1948-53: Maximum discharge, 16,800 cfs Jan. 24, 1949; maximum gage height, 16.52 ft Apr. 3, 1950; no flow Aug. 20 to Sept. 30, 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	502	715	871	1,656	1,421	984	603	50.0	64.8	39.5	2.83	17.2	556
1952	1.67	131	1,149	1,256	587	889	452	166	111	27.5	37.6	15.1	403
1953	1.77	3.72	159	838	199	500	295	514	56.4	45.2	7.27	0	220

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.05	2.40	3.03	5.77	4.47	3.43	2.03	0.17	0.22	0.14	0.01	0.06	22.78
1952	.006	.44	4.00	4.37	1.91	3.10	1.53	.58	.37	.10	.13	.05	16.59
1953	.006	.01	.55	2.92	.63	1.74	.99	1.79	.19	.16	.03	0	9.02

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	722	29.61
1951	1205	13,400	Jan. 4, 1951	0.3	556	1.68	22.78	506	20.75
1952	1235	9,920	Mar. 11, 1952	0.3	403	1.22	16.59	309	12.71
1953	1275	10,700	Jan. 28, 1953	0	220	.665	9.02	-	-

2475. East Fork Little Miami River at Perintown, Ohio

Location.--Lat 39°08'13", long 84°14'17", on left bank at downstream side of highway bridge at Perintown, Clermont County, 5 miles upstream from mouth.

Drainage area.--477 sq mi.

Records available.--May 1915 to September 1917, October 1917 to May 1920 (gage heights only), January 1925 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 507.28 ft above mean sea level, adjustment of 1912. Prior to Feb. 6, 1940, chain gage at same site and datum.

Average discharge.--37 years (1915-17, 1925-60), 546 cfs.

Extremes.--1915-20, 1925-60: Maximum discharge, 39,400 cfs Mar. 6, 1945 (gage height, 23.42 ft); minimum, 0.3 cfs July 24, 1930; minimum gage height, -0.18 ft Oct. 3-7, 1917.

Remarks.--Occasional regulation by Stonelick Lake on Stonelick Creek. Surface area at spillway level, 171 acres.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	394	1,048	1,195	2,445	2,010	1,336	838	76.4	67.8	46.2	16.8	34.4	785
1952	4.39	200	1,604	1,796	832	1,331	692	182	116	23.9	29.5	14.5	571
1953	4.91	4.96	222	1,238	278	707	421	768	55.2	56.0	11.4	1.80	316
1954	1.24	2.36	4.53	25.4	23.0	373	322	158	259	517	277	20.4	167
1955	43.8	26.1	411	533	2,457	1,809	424	157	94.4	243	132	76.6	522
1956	258	543	242	447	2,678	1,897	1,203	358	69.2	213	106	210	660
1957	12.0	25.8	313	741	1,134	214	1,987	186	498	80.7	101	22.8	435
1958	10.8	760	1,748	601	172	388	1,015	769	273	1,274	834	255	680
1959	37.0	77.8	304	2,045	1,172	790	329	341	135	131	22.0	38.9	449
1960	9.80	142	698	848	4,062	605	223	528	726	313	51.3	32.3	435

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.95	2.45	2.89	5.91	4.39	3.23	1.96	0.18	0.16	0.11	0.04	0.08	22.35
1952	.01	.47	3.87	4.35	1.88	3.22	1.62	.44	.27	.06	.07	.03	16.29
1953	.01	.01	.54	3.00	.61	1.71	.99	1.86	.13	.13	.03	.004	9.02
1954	.003	.005	.01	.06	.05	.90	.75	.38	.61	1.24	.67	.05	4.73
1955	.11	.06	.99	1.29	5.56	4.37	.99	.38	.22	.59	.32	.18	14.66
1956	.62	1.27	.58	1.08	6.05	4.10	2.81	.87	.16	.52	.26	.49	18.81
1957	.03	.06	.76	1.79	2.48	.52	4.65	.45	1.16	.19	.24	.05	12.38
1958	.03	1.77	4.22	1.45	.38	.94	2.38	1.86	.64	3.08	2.02	.60	19.37
1959	.09	.18	.73	4.93	2.56	1.91	.77	.82	.32	.32	.05	.09	12.77
1960	.02	.33	1.68	2.05	2.40	1.46	.52	1.28	1.70	.76	.12	.08	12.40

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,001	28.50
1951	1205	21,200	Jan. 4, 1951	4.4	785	1.65	22.35	717	20.41
1952	1235	14,400	Jan. 27, 1952	1.2	571	1.20	16.29	438	12.50
1953	1275	16,500	Jan. 28, 1953	.8	316	.662	9.02	297	8.48
1954	1335	13,000	July 22, 1954	.8	167	.350	4.73	207	5.87
1955	1395	19,400	Feb. 27, 1955	5.8	522	1.09	14.66	569	16.17
1956	1435	17,400	Apr. 3, 1956	12	660	1.38	18.81	602	17.19
1957	1505	29,600	Apr. 4, 1957	4.8	435	.912	12.38	617	17.55
1958	1555	17,700	July 21, 1958	5.4	680	1.43	19.37	504	14.35
1959	1625	32,000	Jan. 21, 1959	1.6	449	.941	12.77	486	13.80
1960	1705	15,000	June 23, 1960	3.0	435	.912	12.40	-	-

2485. Licking River near Salyersville, Ky.

Location.--Lat 37°45'03" (revised), long 83°05'04" (revised), on left bank at upstream side of bridge on State Highway 30, 0.2 mile upstream from Gardner Branch, 1.2 miles west of Salyersville, Magoffin County, and 3.1 miles downstream from State Road Fork.

Drainage area.--140 sq mi.

Records available.--October 1938 to September 1960. Monthly discharge only for October to December 1938, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 823.80 ft above mean sea level, datum of 1929. Prior to Feb. 27, 1939, wire-weight gage at same site and datum.

Average discharge.--22 years (1938-60), 159 cfs.

Extremes.--1938-60: Maximum discharge, 14,300 cfs Feb. 3, 1939 (gage height, 25.4 ft, from floodmark); no flow at times.

Remarks.--Records of chemical analyses for the period October 1951 to September 1952 are published in WSP 1250.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	81.3	281	318	290	762	405	250	180	29.9	7.47	3.99	20.3	215
1952	5.95	185	519	605	318	695	219	359	83.4	12.7	14.5	2.22	253
1953	.88	9.17	90.8	390	188	354	129	343	47.6	18.2	5.08	1.50	132
1954	.08	.78	4.0	62.4	27.3	147	107	98.8	12.4	3.28	4.57	14.5	40.3
1955	3.41	25.3	183	149	632	1,162	92.4	59.7	17.9	6.70	2.07	.23	193
1956	.18	.63	1.96	28.4	758	564	521	93.2	69.0	50.8	26.4	13.7	174
1957	6.36	16.3	321	624	605	209	288	39.8	21.1	5.47	1.07	7.44	176
1958	4.00	82.2	254	119	334	270	614	409	26.0	150	156	19.4	197
1959	6.07	23.2	45.7	243	253	103	368	110	53.4	8.83	4.20	1.63	101
1960	10.6	62.2	135	218	438	348	138	48.8	33.0	155	45.0	22.7	137

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.67	2.24	2.62	2.39	5.67	3.33	1.99	1.48	0.24	0.06	0.03	0.16	20.88
1952	.05	1.48	4.27	4.98	2.45	5.73	1.75	2.96	.66	.10	.12	.02	24.57
1953	.007	.07	.75	3.21	1.40	2.91	1.03	2.82	.38	.15	.04	.01	12.78
1954	.0007	.006	.03	.51	.20	1.21	.85	.81	.10	.03	.04	.12	3.91
1955	.05	.20	1.51	1.22	4.70	9.57	.74	.49	.14	.06	.02	.002	18.68
1956	.001	.005	.02	.23	5.84	4.64	4.15	.77	.55	.42	.22	.11	16.96
1957	.05	.13	2.64	5.14	4.50	1.72	2.29	.33	.17	.05	.009	.06	17.09
1958	.03	.66	1.93	.98	2.48	2.22	4.89	3.37	2.11	1.07	1.12	.15	19.11
1959	.05	.18	.36	2.00	1.96	.85	2.93	.90	.43	.07	.03	.01	9.77
1960	.09	.50	1.11	1.80	3.38	2.87	1.10	.40	.26	1.28	.37	.18	13.34

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	292	28.33
1951	1205	8,720	Feb. 1, 1951	0.8	215	1.54	20.88	218	21.15
1952	1235	8,550	Mar. 22, 1952	.8	253	1.81	24.57	202	19.60
1953	1275	2,160	Jan. 8, 1953	0	132	.943	12.78	124	11.99
1954	1335	711	May 8, 1954	0	40.3	2.88	3.91	57.8	5.62
1955	1385, 1505	6,280	Feb. 28, 1955	0	193	1.38	18.68	175	16.97
1956	1435, 1505	5,220	Feb. 18, 1956	.1	174	1.24	16.96	203	19.77
1957	1505	5,880	Jan. 20, 1957	0	176	1.26	17.09	174	16.89
1958	1555	3,050	May 8, 1958	.9	197	1.41	19.11	176	17.08
1959	1625	2,020	Jan. 22, 1959	.7	101	.721	9.77	112	10.88
1960	1705	1,530	Mar. 17, 1960	2.5	137	.979	13.34	-	-

2495. Licking River at Farmers, Ky.

Location.--Lat 38°08'25", long 83°33'30", near right bank on downstream side of bridge on U.S. Highway 60, 300 ft upstream from Chesapeake and Ohio Railway bridge, three-quarters of a mile west of Farmers, Rowan County, and 1.1 miles upstream from Triplett Creek.

Drainage area.--831 sq mi (revised).

Records available.--July 1915 to June 1920 (gage heights only), May 1928 to September 1931, December 1936 to February 1937 (in WSP 838), April 1938 to September 1960. All figures of discharge above 2,000 cfs prior to April 1938 have been found to be unreliable and should not be used. Gage-height records collected at same site since 1915 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 646.55 ft above mean sea level, datum of 1929. July 22, 1915, to June 30, 1920, staff gage at site 400 ft downstream at datum 0.21 ft lower. May 22, 1928, to Sept. 1, 1939, chain or wire-weight gage and Sept. 2, 1939, to July 13, 1942, water-stage recorder, at site 100 ft downstream at present datum. Auxiliary staff gage 3.8 miles upstream since Oct. 1, 1944; July 2, 1938, to Sept. 30, 1944, staff gage 1 mile downstream used as auxiliary gage.

Average discharge.--22 years (1938-60), 1,037 cfs.

Extremes.--1915-20, 1928-31, 1936-37, 1938-60: Maximum discharge determined, 22,200 cfs Feb. 3, 1939 (gage height, 24.8 ft, from graph based on gage readings); maximum gage height, 31.1 ft Feb. 9, 1918 (ice jam), datum then in use; reverse flow at times caused by backwater; minimum discharge unaffected by backwater, 0.7 cfs Oct. 14, 1930; minimum gage height, 1.30 ft Sept. 19, 1943.

Remarks.--Records of water temperatures for the period October 1949 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	572	2,442	2,140	2,732	4,932	2,595	1,505	955	402	156	109	82.6	1,529
1952	26.6	1,193	3,447	3,353	1,824	4,179	1,041	1,754	449	82.5	60.2	39.4	1,480
1953	8.59	110	379	2,054	1,082	2,457	1,170	2,004	279	164	37.3	13.5	616
1954	5.85	10.5	15.9	374	219	1,015	891	906	151	70.3	124	140	325
1955	71.5	176	985	1,180	3,004	6,735	748	529	198	390	51.2	14	1,168
1956	29.4	48.5	56.6	374	5,429	3,328	3,108	704	853	687	272	62.4	1,226
1957	40.9	141	2,502	2,932	3,800	1,309	2,161	329	186	60	24.5	90.6	1,114
1958	35.3	769	2,045	856	1,732	1,480	3,661	3,044	131	1,047	985	112	1,323
1959	43.8	86.8	256	1,579	1,481	657	2,325	517	560	87.8	55.3	28.3	615
1960	95.6	184	690	1,037	2,581	2,341	927	531	491	1,089	114	80.4	842

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.79	3.28	2.97	3.79	6.18	3.60	2.02	1.52	0.54	0.22	0.15	0.11	24.97
1952	.04	1.60	4.78	4.65	2.37	5.80	1.40	2.43	.60	.11	.08	.05	23.91
1953	.01	.15	.52	2.85	1.36	3.41	1.57	2.78	.37	.23	.05	.02	13.32
1954	.005	.01	.02	.52	.27	1.41	1.16	1.26	.20	.10	.17	.19	5.32
1955	.10	.24	1.37	1.64	3.76	9.34	1.00	.73	.27	.54	.07	.02	19.08
1956	.04	.06	.08	.52	7.05	4.62	4.17	.98	1.14	.95	.38	.08	20.07
1957	.06	.19	3.47	4.07	4.78	1.82	2.90	.46	.25	.08	.03	.12	18.21
1958	.05	1.03	2.84	1.19	2.17	2.05	4.92	4.22	1.18	1.45	1.37	.15	21.62
1959	.06	.12	.35	2.19	1.86	.91	3.12	.72	.48	.12	.08	.04	10.05
1960	.13	.25	.96	1.44	3.35	3.25	1.24	.74	.66	1.51	.16	.11	13.80

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	2,140	34.94	
1951	1205	11,400	Feb. 1, 1951	14	1,529	1.64	24.97	1,491	24.35	
1952	1235, 1705	19,700	Mar. 24, 1952	12	1,460	1.76	23.91	1,110	18.17	
1953	1275	11,000	Mar. 4, 1953	4.1	616	.982	13.32	776	12.68	
1954	1335	4,220	May 9, 1954	2.9	325	.391	5.32	427	7.00	
1955	1385	14,500	Mar. 5, 1955	6.6	1,168	1.40	19.08	1,075	17.55	
1956	1435	13,200	Feb. 19, 1956	16	1,226	1.48	20.07	1,441	23.61	
1957	1505	12,000	Dec. 16, 1956	2.2	1,114	1.34	18.21	1,127	18.41	
1958	1555	13,200	Apr. 29, 1958	12	1,323	1.59	21.62	1,116	18.23	
1959	1625	8,610	Jan. 21, 1959	5.3	615	.740	10.05	664	10.86	
1960	1705	7,550	Feb. 11, 1960	31	842	1.01	13.80	-	-	

2500. Triplett Creek at Morehead, Ky.

Location.--Lat 38°10'46" (revised), long 83°25'55", on right bank at Morehead, Rowan County, 1.1 miles upstream from Dry Creek, 1.6 miles downstream from Christy Creek, and 13 $\frac{1}{4}$ (revised) miles upstream from mouth.

Drainage area.--47.9 sq mi (revised).

Records available.--June 1941 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 708.26 ft above mean sea level, datum of 1929.

Average discharge.--19 years (1941-60), 73.4 cfs.

Extremes.--1941-60: Maximum discharge, 18,600 cfs July 3, 1960 (gage height, 14.83 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; no flow for many days.

Maximum stage known, 18.9 ft in July 1939, from floodmarks (discharge, 44,000 cfs, on basis of slope-conveyance studies).

Remarks.--Water is diverted from reservoir on Evans Branch at dam about 1 mile above station, and from Triplett Creek about a quarter of a mile above station, to supply Morehead State College and town of Morehead. Sewage returns to stream below station, just above mouth of Dry Creek. Some regulation by reservoir on Evans Branch (capacity, about 185 cfs-days) and by pondage above station.

Revisions.--Some periods for the water years 1941-42, 1945, 1947-50 were revised in WSP 1625; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches	Momentary maximum	
				Discharge	Date
July 1941.....	75.2	-	1.81	-	-
Water year 1940-41.....	-	-	-	7,090	July 19, 1941
Water year 1941-42.....	-	-	-	7,330	Apr. 9, 1942
Water year 1944-45.....	-	-	-	4,700	Dec. 31, 1944
Water year 1946-47.....	-	-	-	4,970	Aug. 5, 1947
April 1948.....	254	-	5.92	-	-
Water year 1947-48.....	71.9	1.50	20.45	9,250	Apr. 8, 1948
Calendar year 1948.....	84.9	-	24.14	-	-
Water year 1948-49.....	-	-	-	4,350	Jan. 5, 1949
December 1949.....	149	-	3.59	-	-
Calendar year 1949.....	72.4	-	20.52	-	-
January 1950.....	451	-	10.87	-	-
May.....	100	-	2.41	-	-
June.....	266	-	6.19	-	-
September.....	257	-	5.99	-	-
Water year 1949-50.....	137	2.66	38.77	11,400	Sept. 21, 1950

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	19.8	148	138	249	252	162	97.0	35.7	14.4	7.22	2.81	1.58	93.0
1952	.84	57.5	211	217	106	225	65.4	52.6	5.20	1.02	.12	.02	78.8
1953	.006	1.37	21.5	103	72.6	200	110	87.0	6.38	6.94	1.99	.02	51.0
1954	.02	.10	.18	24.3	9.51	59.7	70.5	74.9	4.75	1.15	6.14	7.22	21.6
1955	6.97	20.4	77.7	63.5	272	346	73.3	52.0	42.1	171	3.70	.77	93.3
1956	6.70	10.2	17.4	68.3	435	231	142	59.2	114	92.1	5.92	7.27	97.5
1957	4.02	35.2	220	187	164	92.8	142	32.2	8.70	2.77	.21	.79	73.7
1958	1.95	41.3	147	54.6	118	88.9	207	204	4.71	142	89.8	9.45	92.4
1959	3.45	17.3	31.6	152	93.3	45.0	113	12.5	5.30	32.8	2.52	1.65	42.2
1960	2.04	12.7	42.4	92.6	171	145	41.8	39.3	58.2	195	2.48	13.8	67.9

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.48	3.46	3.33	5.98	5.47	3.90	2.26	0.86	0.34	0.17	0.07	0.04	26.36
1952	0.42	1.34	5.07	5.23	2.39	5.41	1.52	1.27	.12	.02	.003	.0005	22.39
1953	.0002	.03	.52	2.47	1.58	4.80	2.57	2.09	.15	.17	.05	.0005	14.43
1954	.0005	.002	.004	.59	.21	1.44	1.64	1.60	.11	.03	.20	.17	6.20
1955	.17	.48	1.87	1.53	5.92	6.32	1.71	1.25	.98	4.11	.09	.02	26.45
1956	.16	.24	.42	1.64	9.79	5.56	3.30	1.43	2.65	2.22	.14	.17	27.72
1957	.10	.62	5.30	4.49	3.56	2.23	3.30	.78	.20	.07	.005	.02	20.88
1958	.05	.96	3.54	1.31	2.57	2.14	4.82	4.91	.11	3.41	2.16	.22	26.20
1959	.08	.40	.76	3.66	2.03	1.08	2.64	.30	.12	.79	.06	.04	11.96
1960	.05	.30	1.02	2.23	3.85	3.50	.97	.94	1.35	4.69	.06	.32	19.26

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	147	41.76
1951	1205,1625	5,080	Jan. 4, 1951	0.4	93.0	1.94	26.36	90.1	25.52
1952	1235,1625	8,110	Mar. 22, 1952	0	78.8	1.65	22.39	58.1	16.51
1953	1275,1625	4,620	Mar. 3, 1953	0	51.0	1.08	14.43	49.0	15.69
1954	1335	2,190	May 1, 1954	0	21.8	.455	6.20	30.7	6.71
1955	1365,1625	11,000	July 9, 1955	.2	93.3	1.95	26.45	67.3	24.75
1956	1435,1625	7,330	Feb. 17, 1956	-	97.5	2.04	27.72	117	33.12
1957	1505,1625	7,020	Dec. 14, 1956	0	73.7	1.54	20.88	67.8	19.22
1958	1555,1625	3,210	May 5, 1958	.4	92.4	1.93	26.20	80.8	22.89
1959	1625	3,130	Jan. 21, 1959	.7	42.2	.681	11.96	42.7	12.09
1960	1705	18,600	July 3, 1960	.5	67.9	1.42	19.28	-	-

LICKING RIVER BASIN

2505. Licking River at Blue Lick Springs, Ky.

Location.--Lat 38°25'19", long 83°59'57", near center of span on downstream side of bridge on U.S. Highway 68 and State Highway 32, at Blue Lick Springs, Nicholas County, 1½ miles upstream from Indian Run, 10 miles upstream from Johnson Creek, and 10 miles downstream from Fleming Creek.

Drainage area.--1,785 sq mi (revised).

Records available.--April 1938 to September 1959, water year 1960 (annual maximum).

Gage.--Wire-weight and crest-stage gages. Datum of gage is 560.99 ft above mean sea level, datum of 1929.

Average discharge.--21 years (1938-59), 2,270 cfs.

Extremes.--1938-60: Maximum discharge, 35,900 cfs Apr. 13, 1948 (gage height, 45.0 ft, from floodmark).

1938-59: Minimum observed, 2.9 cfs Sept. 9, 1957; minimum gage height observed, 2.90 ft Oct. 12, 13, 1943.

Maximum stage known, 47.4 ft in January 1937.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,032	4,516	4,502	7,601	10,490	5,700	3,081	1,417	526	171	186	113	3,215
1952	44.5	2,808	7,895	7,553	4,423	8,637	2,027	2,576	705	152	73.1	46.3	3,071
1953	11.0	171	933	4,113	2,101	5,928	2,750	3,729	380	266	243	14.2	1,726
1954	5.08	10.8	28.8	845	308	2,122	1,544	1,728	331	75.2	228	466	844
1955	97.0	312	1,748	2,467	6,447	12,270	1,370	1,161	695	2,116	249	43.1	2,401
1956	192	231	423	929	12,730	7,491	5,300	1,509	2,126	1,607	554	422	2,747
1957	84.4	513	5,815	5,131	7,432	2,561	5,410	1,172	371	264	40.6	93.3	2,375
1958	54.7	1,601	4,756	1,746	3,260	2,954	5,662	7,343	331	2,960	2,187	230	2,762
1959	93.6	225	917	4,509	3,281	1,787	3,899	773	1,043	345	151	47.0	1,409
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.67	2.70	2.91	4.91	6.12	3.68	1.92	0.92	0.33	0.11	0.12	0.07	24.46
1952	.03	1.76	4.97	4.86	2.67	5.58	1.27	1.66	.44	.10	.05	.03	23.42
1953	.007	.11	.60	2.66	1.22	3.83	1.72	2.41	.24	.17	.16	.009	13.14
1954	.004	.007	.02	.55	.18	1.37	.96	1.12	.21	.05	.14	.29	4.90
1955	.06	.20	1.13	1.59	3.76	7.92	.86	.75	.43	1.37	.16	.03	18.26
1956	.12	.14	.27	.60	7.69	4.84	3.31	.97	1.33	1.04	.36	.26	20.93
1957	.05	.32	3.76	3.31	4.34	1.65	3.38	.76	.23	.17	.03	.06	18.06
1958	.04	1.00	3.07	1.15	1.90	1.91	3.54	4.74	.21	1.91	1.41	.14	21.00
1959	.06	.14	.59	2.91	1.91	1.15	2.44	.50	.65	.22	.10	.03	10.70
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	20,900	Jan. 15, 1951	37	3,215	1.80	24.46	4,526	34.42
1952	1235	22,400	Mar. 23, 1952	15	3,071	1.72	23.42	3,279	24.94
1953	1275	19,700	Mar. 4, 1953	6	1,726	.967	13.14	2,279	17.38
1954	1335	6,390	Apr. 18, 1954	3.5	644	.361	4.90	1,636	12.45
1955	1385	23,700	Mar. 8, 1955	15	2,401	1.34	18.26	823	6.26
1956	1435	23,800	Feb. 18, 1956	36	2,747	1.54	20.93	2,290	17.40
1957	1505	16,700	Apr. 4, 1957	2.9	2,375	1.33	18.06	3,218	24.53
1958	1555	20,100	May 7, 1958	16	2,762	1.55	21.00	2,372	18.04
1959	1625	19,000	Jan. 22, 1959	11	1,409	.789	10.70	2,326	17.68
1960	1705	17,600	July 4, 1960	-	-	-	-	-	-

2510. North Fork Licking River near Lewisburg, Ky.

Location.--Lat 38°32'55", long 83°47'30", on left bank at downstream side of bridge on State Highway 419, 1½ miles west of Lewisburg, Mason County, and 1½ miles downstream from Mill Creek.

Drainage area.--119 sq mi (revised).

Records available.--August 1946 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 680 ft (from topographic map). Prior to Nov. 2, 1950, wire-weight gage at same site and datum.

Average discharge.--14 years (1946-60), 153 cfs.

Extremes.--1946-60: Maximum discharge, 11,300 cfs Apr. 13, 1948 (gage height, 20.7 ft, from floodmarks); no flow for many days.
Flood in July 1938 reached a stage of 22.7 ft, from information by local resident.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	30.5	176	270	655	718	359	157	38.7	2.54	0.22	11.2	0.53	199
1952	1.49	284	488	488	231	440	82.3	84.5	1.88	25.4	5.42	.20	178
1953	0	2.07	87.6	280	74.7	417	119	145	14.8	5.42	24.9	0	98.4
1954	0	0	0	57.8	8.17	179	51.3	70.7	44.8	.14	27.9	16.6	38.4
1955	.18	33.4	148	164	609	565	39.8	90.5	48.7	107	5.00	.07	148
1956	52.2	80.2	66.6	235	777	490	188	91.0	120	86.9	64.0	90.5	191
1957	3.33	28.2	281	280	340	109	385	84.8	17.6	7.13	22.5	.24	127
1958	.59	166	373	108	200	172	287	421	59.7	250	14.6	5.78	172
1959	1.35	14.5	80.0	433	250	135	159	28.3	34.8	97.9	2.49	.24	102
1960	1.38	122	199	282	343	263	43.5	50.4	60.9	253	72.9	16.3	142

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.30	1.65	2.62	6.34	6.28	3.48	1.47	0.38	0.02	0.002	0.11	0.005	22.66
1952	.01	2.67	4.72	4.73	2.09	4.26	.77	.82	.02	.25	.05	.002	20.39
1953	0	.02	.85	2.71	.65	4.04	1.11	1.41	.14	.05	.24	0	11.22
1954	0	0	0	.56	.07	1.74	.46	.69	.42	.001	.27	.16	4.39
1955	.002	.31	1.44	1.58	5.33	5.47	.37	.88	.46	1.03	.05	.0007	16.92
1956	.51	.75	.85	2.28	7.04	4.75	1.58	.88	1.12	.84	.62	.85	21.87
1957	.03	.26	2.72	2.52	2.97	1.06	3.61	.82	.16	.07	.22	.002	14.44
1958	.008	1.55	3.61	1.04	1.75	1.67	2.70	4.08	.56	2.42	.14	.05	19.58
1959	.01	.14	.77	4.20	2.18	1.30	1.49	.25	.33	.95	.02	.002	11.64
1960	.01	1.14	1.93	2.73	3.11	2.54	.41	.49	.57	2.45	.71	.15	16.24

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Runoff in inches
		Discharge	Date					
1950	-	-	-	-	-	-	314	35.85
1951	1205	6,390	Jan. 4, 1951	0	199	1.87	22.66	25.49
1952	1235	5,910	Mar. 22, 1952	0	178	1.50	20.39	13.86
1953	1275	5,750	Mar. 4, 1953	0	98.4	.827	11.22	10.35
1954	1335	1,780	Mar. 13, 1954	0	38.4	.323	4.39	6.14
1955	1385	5,140	Feb. 27, 1955	0	148	1.24	16.92	17.08
1956	1435	5,400	Feb. 2, 1956	.6	191	1.60	21.87	22.97
1957	1505	6,310	Apr. 4, 1957	0	127	1.07	14.44	16.60
1958	1555	5,430	Nov. 18, 1957	0	172	1.45	19.58	15.33
1959	1625	5,010	Jan. 21, 1959	0	102	.857	11.64	13.80
1960	1705	6,220	July 3, 1960	0	142	1.19	16.24	-

2515. Licking River at McKinneysburg, Ky.

Location.--Lat 38°35'52", long 84°16'00", on right bank at downstream side of highway bridge at McKinneysburg, Pendleton County, 6.5 miles southeast of Falmouth, 9.0 miles upstream from Blanket Creek, and 12.8 miles upstream from South Fork.

Drainage area.--2,326 sq mi (revised).

Records available.--July 1924 to August 1926, October 1938 to September 1960. Monthly discharge only for October, November 1938, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 520.83 ft above mean sea level, datum of 1929. July 23, 1924, to Aug. 9, 1926, chain gage at same site, datum unknown. Nov. 18, 1938, to June 30, 1939, wire-weight gage at present site and datum. Oct. 1, 1949, to Sept. 30, 1957, auxiliary water-stage recorder. 4.0 miles downstream.

Average discharge.--23 years (1924-25, 1938-60), 2,972 cfs.

Extremes.--1924-26, 1938-60: Maximum discharge, 54,100 cfs Apr. 13, 1948 (gage height, 47.59 ft); minimum, 3.8 cfs Oct. 18, 19, 1952.

Flood in January 1937 reached a stage of about 47.8 ft, from floodmarks.

Remarks.--Records of chemical analyses, water temperatures, and suspended sediment loads for the period October 1952 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,195	5,121	5,811	10,860	13,200	7,384	4,075	1,770	645	189	232	133	4,163
1952	54.1	5,932	9,759	9,390	5,624	11,010	2,490	2,778	763	243	82.3	56.4	3,861
1953	12.0	188	1,395	5,280	2,432	7,824	3,311	4,494	480	292	295	15.8	2,179
1954	6.10	10.9	28.5	1,128	401	2,740	1,915	2,043	476	76.9	385	575	820
1955	115	403	2,160	3,361	8,861	15,680	1,667	1,587	906	2,617	548	71.9	3,128
1956	424	707	772	1,377	16,890	9,830	6,217	2,268	3,005	2,097	892	961	3,727
1957	100	535	6,476	6,078	9,250	2,934	7,173	1,863	1,283	660	58.2	100	3,000
1958	70.4	2,822	6,664	2,445	4,112	3,743	6,886	9,570	603	3,508	2,210	289	3,583
1959	115	230	1,168	6,484	4,316	2,431	4,453	1,038	1,155	599	239	77.6	1,843
1960	409	1,302	2,717	3,938	6,830	5,791	1,819	1,292	1,368	4,376	253	355	2,528

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.59	2.46	2.88	5.38	5.91	3.66	1.95	0.88	0.31	0.09	0.12	0.06	24.29
1952	.03	1.89	4.84	4.65	2.61	5.48	1.19	1.38	.37	.12	.04	.03	22.61
1953	.006	.09	.69	2.62	1.09	3.88	1.59	2.23	.23	.14	.15	.008	12.72
1954	.003	.005	.01	.56	.18	1.36	.92	1.01	.23	.04	.19	.28	4.79
1955	.06	.19	1.07	1.67	3.97	7.77	.80	.79	.43	1.30	.17	.03	18.25
1956	.21	.34	.38	.68	7.83	4.87	2.98	1.12	1.44	1.04	.44	.46	21.79
1957	.05	.28	5.21	3.01	4.14	1.45	3.44	.92	.62	.33	.05	.05	17.51
1958	.03	1.35	3.50	1.21	1.84	1.86	3.30	4.74	.29	1.74	1.10	.14	20.90
1959	.06	.11	.68	3.21	1.93	1.20	2.14	.51	.55	.30	.12	.04	10.75
1960	.20	.62	1.35	1.95	3.17	2.87	.87	.64	.66	2.17	.13	.17	14.80

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	5,979	34.87
1951	1205	32,700	Jan. 15, 1951	42	4,163	1.79	24.29	4,303	25.12
1952	1235	32,600	Mar. 23, 1952	21	3,861	1.66	22.61	2,842	16.64
1953	1275	29,400	Mar. 4, 1953	3.8	2,179	.937	12.72	2,048	11.96
1954	1335	7,050	Apr. 18, 1954	4.5	820	.352	4.79	1,042	6.09
1955	1385	26,700	Mar. 7, 1955	16	3,128	1.34	18.25	3,061	17.86
1956	1435	31,600	Feb. 18, 1956	65	3,727	1.60	21.79	4,168	24.38
1957	1505	26,700	Apr. 4, 1957	11	3,000	1.29	17.51	3,201	18.67
1958	1555	31,500	May 7, 1958	16	3,583	1.54	20.90	2,907	16.97
1959	1625	33,200	Jan. 22, 1959	64	1,843	.792	10.73	2,088	12.17
1960	1705	27,700	July 3, 1960	64	2,528	1.09	14.80	-	-

2520. Stoner Creek at Paris, Ky.

Location.--Lat 38°13'45", long 84°15'22", on left bank at upstream side of bridge on county road, 0.5 mile north of Paris, Bourbon County, and 1.5 miles downstream from Huston Creek.

Drainage area.--239 sq mi (revised).

Records available.--April 1953 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 770.43 ft above mean sea level, datum of 1929.

Average discharge.--7 years (1953-60), 236 cfs.

Extremes.--1953-60: Maximum discharge, 10,000 cfs Mar. 8, 1956 (gage height, 15.84 ft); minimum daily, 0.2 cfs for several days in 1954.

Highest stage since about 1928, about 19.5 ft in winter of 1951, from information by local resident.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	#284	434	111	6.68	1.56	1.54	-
1954	1.02	0.48	1.98	124	33.7	149	119	88	10.1	25.6	9.79	9.68	47.9
1955	4.44	14.1	166	253	1,036	1,165	75.7	126	118	212	61.5	6.05	266
1956	12.5	29.2	82.0	290	1,607	1,084	406	56.2	220	210	48.5	8.16	333
1957	2.60	14.2	511	606	650	241	850	192	119	48.0	4.45	1.99	265
1958	1.32	264	697	281	378	296	429	535	18.5	488	357	18.9	311
1959	5.17	24.5	96.7	742	416	243	234	54.1	95.5	95.6	24.0	6.16	168
1960	3.47	77.5	411	471	682	546	92.8	31.8	268	397	78.1	124	264

* Not previously published; partly estimated on basis of records for South Fork Licking River at Cynthiana.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	#1.33	2.09	0.52	0.03	0.008	0.007	-
1954	0.005	0.002	0.01	0.60	0.15	0.72	.55	.42	.05	.12	.05	.05	2.73
1955	.02	.07	.80	1.22	4.51	5.62	.35	.61	.55	1.02	.30	.03	15.10
1956	.06	.14	.40	1.40	7.25	5.23	1.89	.27	1.03	1.01	.23	.04	18.95
1957	.013	.07	2.46	2.92	2.83	1.16	3.88	.93	.56	.23	.02	.009	15.08
1958	.006	1.23	3.36	1.36	1.65	1.43	2.00	2.58	.09	2.16	1.72	.09	17.68
1959	.02	.11	.47	3.58	1.81	1.17	1.09	.26	.45	.45	.12	.03	9.56
1960	.02	.36	1.98	2.27	3.08	2.63	.43	.15	1.25	1.91	.38	.58	15.04

* Not previously published; partly estimated on basis of records for South Fork Licking River at Cynthiana.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	1335	a3,540	May 18, 1953	-	-	-	-	-	-
1954	1335,1385	1,240	Jan. 21, 1954	0.2	47.9	0.200	2.73	63.3	3.60
1955	1385	6,990	Mar. 22, 1955	.7	266	1.11	15.10	261	14.81
1956	1435	10,000	Mar. 8, 1956	3.6	333	1.39	18.95	367	20.89
1957	1505	9,640	Apr. 4, 1957	1.2	265	1.11	15.08	302	17.14
1958	1555	7,230	Aug. 3, 1958	.7	311	1.30	17.68	241	13.68
1959	1625	7,940	Jan. 22, 1959	1.0	168	.703	9.56	199	11.32
1960	1705	5,750	Jan. 15, 1960	2.2	264	1.10	15.04	-	-

a Maximum during period April to September.

2525. South Fork Licking River at Cynthiana, Ky.

Location.--Lat 38°23'27", long 84°18'11", on left bank at downstream side of bridge on State Highways 356 and 36, at Cynthiana, Harrison County, 0.4 mile downstream from Grays Run and in pool formed by old milldam 2.6 miles downstream.

Drainage area.--621 sq mi (revised).

Records available.--April 1938 to September 1960. Gage-height records collected in this vicinity since 1917 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 688.52 ft above mean sea level, datum of 1929, supplementary adjustment of 1944. Prior to Oct. 28, 1952, wire-weight gage at same site and datum.

Average discharge.--22 years (1938-60), 734 cfs.

Extremes.--1938-60: Maximum discharge, 35,300 cfs Apr. 13, 1948 (gage height, 23.32 ft); minimum daily, 0.3 cfs Oct. 23-26, Nov. 10-18, 1953.

Remarks.--Small diversion by Cynthiana Municipal Water Plant. Records of chemical analyses for the period October 1950 to August 1951 and water temperatures for the period October 1949 to September 1960 are published in reports of the Geological Survey.

Revisions.--Some periods for the water year 1945 were revised in WSP 1505; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches
February 1945.....	3,171	-	5.32
Water year 1944-45.....	984	1.58	21.51
Calendar year 1945.....	1,006	-	21.98

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	254	813	1,539	3,644	3,265	1,749	831	143	41.3	5.94	10.9	6.80	1,013
1952	3.05	882	2,730	2,495	1,204	2,888	354	129	108	84.8	47.6	6.61	916
1953	1.45	2.13	254	1,393	414	2,390	782	1,079	235	25.2	27.0	2.40	555
1954	1.65	.74	2.37	272	80.9	358	322	226	75.1	38.7	31.6	69.7	124
1955	14.4	41.3	412	646	2,771	3,418	186	257	234	499	92.4	1.34	704
1956	72.9	147	257	632	4,341	2,810	1,048	196	910	464	140	45.1	907
1957	4.65	42.8	1,335	1,493	1,795	588	2,180	323	312	237	32.2	3.62	702
1958	1.95	722	1,891	758	392	816	1,098	1,695	87.1	929	858	59.2	828
1959	14.4	62.2	503	2,060	1,108	667	890	119	341	182	78.4	14.1	467
1960	26.9	398	1,069	1,406	1,884	1,516	275	106	586	1,182	107	370	741

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.47	1.46	2.86	6.77	5.47	3.25	1.49	0.27	0.07	0.01	0.02	0.01	22.15
1952	.006	1.58	5.07	4.63	2.09	5.36	.64	.24	.19	.16	.09	.01	20.07
1953	.003	.004	.47	2.59	.89	4.44	1.40	2.00	.42	.05	.05	.004	12.12
1954	.001	.001	.004	.50	.14	.67	.58	.42	.13	.07	.06	.13	2.71
1955	.03	.07	.77	1.20	4.65	6.35	.33	.48	.42	.93	.17	.002	15.40
1956	.14	.26	.48	1.17	7.54	5.22	1.88	.36	1.64	.86	.26	.08	19.89
1957	.009	.08	2.44	2.77	3.01	1.09	3.92	.97	.56	.44	.06	.006	15.36
1958	.004	1.30	3.51	1.41	1.66	1.52	1.97	3.14	.16	1.72	1.59	.11	18.09
1959	.03	.11	.57	3.83	1.86	1.24	1.24	.22	.61	.34	.15	.03	10.23
1960	.05	.72	1.98	2.61	3.27	2.81	.49	.20	1.05	2.19	.20	.66	16.23

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	1,488	32.52	
1951	1205	21,300	Jan. 4, 1951	1.6	1,013	1.63	22.15	1,099	24.02	
1952	1235	23,900	Mar. 23, 1952	2.3	916	1.48	20.07	634	13.89	
1953	1275	20,000	Mar. 4, 1953	1	555	.89	12.12	533	11.65	
1954	1335	3,120	June 13, 1954	1	124	.200	2.71	163	3.57	
1955	1385	13,300	Mar. 22, 1955	1.1	704	1.13	15.40	705	15.41	
1956	1435	17,000	Mar. 8, 1956	9	907	1.46	19.89	983	21.54	
1957	1505	16,400	Apr. 5, 1957	2.3	702	1.13	15.36	807	17.64	
1958	1555	12,600	May 5, 1958	1.3	828	1.33	18.09	640	13.99	
1959	1625	18,000	Jan. 21, 1959	5.6	467	.752	10.23	560	12.27	
1960	1705	13,700	Jan. 15, 1960	5.0	741	1.19	16.23	-	-	

2535. Licking River at Catawba, Ky.

Location.--Lat 38°42'37", long 84°18'39", on left bank 1 mile southeast of Catawba, Pendleton County, 1.6 miles upstream from Kincaid Creek, and 2.3 miles north of Falmouth.

Drainage area.--3,300 sq mi (revised).

Records available.--January 1914 to July 1920 (January 1914 to July 1915 and October 1917 to July 1920, gage heights only), July 1928 to September 1960. Published as "at Falmouth" 1914-16. Gage-height records collected in this vicinity since 1887 are published in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 498.37 ft above mean sea level (Louisville & Nashville RR. bench mark). Jan. 1, 1914, to July 31, 1916, chain gage at site 3.8 miles upstream at datum 13.8 ft higher. July 14, 1916, to July 5, 1920, staff gage at site 1.4 miles downstream at present datum.

Average discharge.--34 years (1915-17, 1928-60), 4,077 cfs.

Extremes.--1915-17, 1928-60: Maximum discharge, 86,300 cfs Apr. 14, 1948 (gage height, 47.0 ft, from floodmark); minimum, 2.5 cfs Aug. 5, Oct. 14, 18, 1930.

Correction.--In WSP 1305, the maximum discharge for the water year 1937 is listed in error and should be 86,200 cfs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,529	6,323	7,650	15,980	17,790	9,985	5,234	1,822	641	213	236	151	5,574
1952	59.7	5,365	15,780	12,630	7,343	14,810	3,047	2,801	851	334	130	77.0	5,129
1953	21.7	183	1,916	7,060	2,921	10,800	4,343	5,699	760	412	339	20.7	2,689
1954	6.70	12.8	41.1	1,574	516	3,245	2,447	2,223	581	106	421	704	994
1955	198	394	2,628	4,189	12,470	20,730	2,035	1,834	1,187	3,073	656	145	4,095
1956	785	1,043	1,074	2,039	23,150	13,510	7,463	2,849	4,301	2,503	1,159	1,506	5,033
1957	173	561	8,120	7,883	12,000	3,762	10,339	2,754	2,217	1,483	121	143	4,079
1958	98.5	4,438	9,134	3,647	5,292	4,705	8,735	11,800	865	4,483	3,128	442	4,738
1959	161	330	1,802	9,537	5,848	3,350	5,218	1,148	1,436	844	351	102	2,491
1960	622	2,259	4,326	5,672	9,458	7,756	2,240	1,506	2,530	6,082	364	749	3,615

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.53	2.14	2.74	5.58	5.61	3.49	1.77	0.64	0.22	0.07	0.08	0.05	22.92
1952	.02	1.81	4.81	4.41	2.40	5.17	1.03	1.01	.29	.12	.05	.03	21.15
1953	.008	.06	.67	2.47	.92	3.77	1.47	1.99	.26	.14	.12	.007	11.88
1954	.002	.004	.01	.55	.16	1.13	.83	.78	.20	.04	.15	.24	4.10
1955	.07	.13	.92	1.46	3.94	7.24	.69	.64	.40	1.07	.23	.05	16.84
1956	.27	.35	.38	.71	7.57	4.72	2.52	1.00	1.45	.87	.40	.51	20.75
1957	.06	.19	2.84	2.75	3.79	1.31	3.52	.96	.75	.52	.04	.05	16.78
1958	.03	1.50	3.19	1.27	1.67	1.64	2.95	4.12	.29	1.57	1.09	.15	19.47
1959	.06	.11	.63	3.33	1.85	1.17	1.76	.40	.49	.29	.12	.03	10.24
1960	.22	.76	1.51	1.98	3.08	2.71	.76	.53	.86	2.12	.13	.25	14.91

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	7,914	32.56
1951	1205	52,900	Jan. 15, 1951	71	5,574	1.69	22.92	5,874	24.15
1952	1235	55,300	Mar. 23, 1952	31	5,129	1.55	21.15	3,696	15.25
1953	1275	49,100	Mar. 4, 1953	10	2,889	.875	11.88	2,715	11.16
1954	1335	12,400	Apr. 17, 1954	3.8	994	.301	4.10	1,262	5.20
1955	1385	38,800	Mar. 6, 1955	26	4,095	1.24	16.84	4,066	16.72
1956	1435	46,900	Feb. 18, 1956	107	5,033	1.53	20.75	5,539	22.84
1957	1505	49,700	Apr. 4, 1957	17	4,079	1.24	16.78	4,477	18.41
1958	1555	47,700	May 7, 1958	44	4,738	1.44	19.47	3,783	15.55
1959	1625	54,900	Jan. 22, 1959	36	2,491	.755	10.24	2,903	11.93
1960	1705	40,200	July 3, 1960	33	3,615	1.10	14.91	-	-

2550. Ohio River at Cincinnati, Ohio

Location--Lat 39°05'40", long 84°30'40", on right bank at downstream side of Covington-Cincinnati suspension bridge, Cincinnati, Hamilton County, 0.2 mile downstream from Licking River, 1.9 miles upstream from Mill Creek, and at mile 470.5.

Drainage area--76,580 sq mi, approximately.

Records available--December 1936 to September 1960 (fragmentary prior to October 1939).

Gage-height records collected at approximately same site since 1858 are contained in reports of Mississippi River Commission for period 1858 to 1886, in files of U.S. Weather Bureau 1886 to 1890, and in reports of U.S. Weather Bureau since 1890.

Gage--Water-stage recorder. Datum of gage is 429.61 ft above mean sea level, Ohio River datum. Prior to Oct. 1, 1948, several gages at different sites and datums were used. Since Oct. 1, 1939, auxiliary water-stage recorder or staff gage read hourly, at dam 37, 12.7 miles downstream; prior to Oct. 1, 1939, several gages at different sites and datums were used as auxiliary gages.

Average discharge--21 years (1939-60), 96,720 cfs.

Extremes--1936-60: Maximum discharge, 894,000 cfs Jan. 26, 1937; maximum gage height, 80.0 ft Jan. 25, 26, 1937, present site and datum; minimum discharge not determined.

Remarks--Records of chemical analyses for the period October 1952 to September 1953 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	34,890	104,000	232,100	235,700	291,500	235,500	212,600	106,100	83,600	44,150	13,870	15,220	133,100
1952	11,290	50,110	159,800	267,600	231,600	218,200	151,100	141,600	44,250	21,700	18,960	12,970	110,600
1953	8,565	16,750	47,920	122,700	125,600	158,200	137,800	137,000	67,990	26,510	16,610	9,783	72,690
1954	6,655	8,383	22,030	53,830	55,120	125,300	126,400	83,720	39,640	36,620	37,290	18,920	51,580
1955	84,560	44,460	84,080	141,600	204,500	408,200	109,400	71,700	37,660	27,330	25,250	10,580	103,900
1956	26,120	48,390	39,470	26,280	298,300	300,700	226,600	148,800	120,700	81,330	90,980	50,580	120,700
1957	25,050	31,720	132,400	143,500	258,700	121,600	24,300	76,760	45,300	37,720	10,870	15,230	93,960
1958	17,840	47,510	157,200	115,000	100,700	138,300	195,900	263,300	69,630	138,000	122,700	40,970	117,800
1959	24,350	37,770	52,580	184,900	207,600	136,500	152,500	103,600	41,020	25,900	22,350	13,670	82,780
1960	35,490	63,380	139,300	158,200	166,300	109,000	194,800	99,050	62,650	39,850	23,860	21,700	92,490

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.53	1.52	3.49	3.55	3.96	3.55	3.10	1.60	1.22	0.66	0.21	0.22	23.61
1952	.17	.75	2.41	4.03	3.26	3.29	2.20	2.13	.64	.33	.29	.19	19.67
1953	.13	.24	.72	1.85	1.71	2.38	2.01	2.06	.99	.40	.25	.14	12.88
1954	.10	.12	.33	.81	.75	1.89	1.84	1.34	.58	.55	.58	.28	9.15
1955	1.27	.65	1.27	2.13	2.78	6.15	1.59	1.08	.55	.41	.38	.15	18.41
1956	.39	.70	.59	.40	4.20	4.53	3.30	2.24	1.76	1.22	1.37	.74	21.44
1957	.38	.46	1.99	2.16	3.52	1.85	3.54	1.16	.66	.57	.16	.22	16.65
1958	.27	.69	2.37	1.73	1.37	2.10	2.85	3.96	1.01	2.08	1.85	.60	20.88
1959	.37	.55	.79	2.78	2.82	2.05	2.22	1.56	.60	.39	.34	.20	14.67
1960	.53	.92	2.10	2.38	2.34	1.64	2.84	1.49	.91	.60	.36	.32	16.43

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	506,000	Dec. 10, 1950	9,630	133,100	1.74	23.61	141,900	25.15
1952	1235	510,000	Feb. 1, 1952	8,380	110,600	1.44	19.67	93,170	17.45
1953	1275	245,000	Mar. 6, 1953	-	72,690	.949	12.88	69,640	12.34
1954	1335	230,000	Mar. 7, 1954	-	51,580	.674	9.15	66,440	11.79
1955	1385	592,000	Mar. 9, 1955	-	103,900	1.36	18.41	95,450	16.90
1956	1435	458,000	Mar. 17, 1956	9,280	120,700	1.58	21.44	127,100	22.59
1957	1505	441,000	Apr. 10, 1957	-	93,960	1.23	16.65	96,750	17.15
1958	1555	544,000	May 11, 1958	-	117,800	1.54	20.88	108,700	19.26
1959	1625	493,000	Jan. 26, 1959	-	82,780	1.09	14.67	93,200	16.51
1960	1705	370,000	Apr. 8, 1960	7,010	92,490	1.21	16.43	-	-

2555. Mill Creek at Reading, Ohio

Location.--Lat 39°13'15", long 84°26'50", in sec.32, R.1, T.4, on right bank at upstream side of Koehler Street Bridge at Reading, Hamilton County, 1 mile upstream from West Fork Mill Creek and 13 miles upstream from mouth.

Drainage area.--73.1 sq mi.

Records available.--October 1938 to April 1939, June 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 527.00 ft above mean sea level, Ohio River datum. Prior to Oct. 1, 1951, water-stage recorder or wire-weight gage at same site at datum 4.00 ft higher. Oct. 1, 1951, to Apr. 25, 1954, wire-weight gage at present site and datum.

Extremes.--1938-60: Maximum discharge, 5,780 cfs Mar. 6, 1945 (gage height, 20.00 ft, present datum); no flow for days in 1940-41, 1944, 1951.

Remarks.--Some diversion by industrial plants above station. Flow supplemented at times by ground-water pumpage from wells in Mill Creek and Miami River basins. Some flow is diverted indirectly from streams as recharge for aquifer supplying wells.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	23.8	95.6	156	219	230	145	76.6	21.7	15.4	9.35	8.67	10.8	83.4
1952	.9	11.2	108	170	127	184	118	42.7	15.1	12.5	13.3	9.01	67.7
1953	8.67	18.2	27.9	153	42.1	84.4	54.8	127	14.1	49.6	10.0	9.23	50.2
1954	9.37	9.23	7.81	9.33	10.3	16.2	23.2	13.2	38.9	57.7	15.4	9.31	18.4
1955	11.8	9.56	18.5	38.7	212	206	40.1	20.1	16.7	16.5	16.7	49.1	53.6
1956	87.7	70.0	28.4	49.6	221	124	162	54.7	36.5	42.5	11.8	13.6	74.4
1957	14.4	14.0	17.7	42.0	100	35.0	283	109	57.6	21.3	14.8	16.7	59.8
1958	15.8	58.8	183	86.4	27.1	40.6	84.3	86.3	73.6	279	112	26.1	90.3
1959	14.6	16.6	38.0	291	161	125	63.0	45.2	28.7	17.7	16.7	14.6	69.0
1960	13.4	21.3	33.1	70.3	96.7	28.5	30.9	33.7	95.2	60.8	23.9	16.3	43.4

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	101	-
1951	1205	2,700	Dec. 3, 1950	4.4	83.4	-	-	70.5	-
1952	1235	3,310	Mar. 11, 1952	0	67.7	-	-	82.1	-
1953	1275	4,530	May 22, 1953	2.6	50.2	-	-	47.8	-
1954	1335	2,040	July 21, 1954	2.7	18.4	-	-	19.5	-
1955	1385	2,330	Mar. 21, 1955	3.5	53.6	-	-	65.9	-
1956	1435	3,330	Apr. 2, 1956	5.4	74.4	-	-	62.7	-
1957	1505	3,530	Apr. 4, 1957	4.7	59.8	-	-	77.7	-
1958	1555	3,940	July 31, 1958	8.0	90.3	-	-	74.4	-
1959	1625	5,640	Jan. 21, 1959	5.4	69.0	-	-	68.9	-
1960	1705	2,130	Jan. 15, 1960	5.8	43.4	-	-	-	-

2560. West Fork Mill Creek at Mount Healthy, Ohio

Location.--Lat 39°14'40", long 84°32'50", in NE $\frac{1}{4}$ sec.33, R.1, T.3, on left bank 90 ft upstream from bridge on U.S. Highway 127, 0.9 mile north of Mount Healthy, Hamilton County, and 4 miles upstream from West Fork Mill Creek Dam.

Drainage area.--7.88 sq mi.

Records available.--August 1949 to September 1953.

Gage.--Water-stage recorder. Datum of gage is 711.87 ft above mean sea level, adjustment of 1912.

Extremes.--1949-53: Maximum discharge, 1,190 cfs Mar. 22, 1952 (gage height, 4.96 ft); no flow for many days each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.97	10.3	16.6	26.5	24.0	14.7	6.11	0.14	0.39	0.33	0	0.13	8.25
1952	.24	2.11	15.9	16.9	10.2	17.9	6.14	72	1.48	.81	.83	.06	6.13
1953	.02	.20	2.03	12.3	3.42	10.2	7.52	10.3	.12	.90	.02	.11	3.96

MILL CREEK BASIN

Monthly and yearly runoff, in inches, of West Fork Mill Creek at Mount Healthy, Ohio

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.14	1.46	2.43	3.87	3.17	2.15	0.87	0.02	0.06	0.05	0	0.02	14.24
1952	.03	.30	2.33	2.47	1.39	2.62	.87	.10	.21	.12	.12	.008	10.57
1953	.003	.03	.30	1.80	.45	1.49	1.06	1.51	.02	.13	.003	.02	6.82

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	10.8	18.66
1951	1205	1,080	Jan. 14, 1951	0	8.25	1.05	14.24	7.46	12.87
1952	1235	1,190	Mar. 22, 1952	0	6.13	.778	10.57	4.78	8.24
1953	1275	959	May 22, 1953	0	3.96	.503	6.82	-	-

2565. West Fork Mill Creek Reservoir near Greenhills, Ohio

Location.--Lat 39°15'40", long 84°29'40", at dam on West Fork Mill Creek, 1½ miles east of Greenhills, Hamilton County.

Drainage area.--29.5 sq mi.

Records available.--April 1953 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 600.00 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers); gage readings have been reduced to elevations above mean sea level.

Extremes.--1953-60: Maximum contents, 9,750 acre-ft Jan. 22, 1959 (elevation, 698.95 ft); minimum, 1,370 acre-ft Nov. 20, 1953 (elevation, 674.11 ft).

Remarks.--Reservoir is formed by earth dam with concrete spillway; operation for flood control began Dec. 20, 1952; storage to maintain conservation pool began Apr. 19, 1953. Capacity at spillway level (elevation, 702.0 ft), 11,360 acre-ft, of which 1,530 acre-ft is in conservation pool. Dead storage, 65 acre-ft. Records given herein represent total contents. Reservoir is used for flood control and recreation. There are no gates on spillway and all regulation is done by gates in conduit through dam.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1953	-	-	-	-	-	0	1,150	1,550	1,530	1,830	1,500	1,430
1954	1,390	1,390	1,430	1,530	1,590	1,550	1,550	1,530	1,530	1,530	1,550	1,530
1955	1,530	1,530	1,530	1,530	1,610	1,530	1,530	1,550	1,550	1,570	1,570	1,870
1956	1,550	1,550	1,550	1,760	1,550	1,530	1,530	1,550	1,570	1,570	1,610	1,550
1957	1,550	1,550	1,550	1,530	1,550	1,530	1,530	1,570	1,570	1,550	1,530	1,530
1958	1,550	1,570	1,530	1,570	1,570	1,550	1,590	1,550	1,550	4,030	1,530	1,550
1959	1,550	1,550	1,540	1,640	1,560	1,540	1,540	1,540	1,550	1,580	1,550	1,510
1960	1,540	1,550	1,540	1,540	1,540	1,530	1,550	1,550	1,540	1,540	1,580	1,540

2570. West Fork Mill Creek near Greenhills, Ohio

Location.--Lat 39°15'45", long 84°29'35", in SE $\frac{1}{4}$ sec.17, R.1, T.3, on left bank 1,000 ft downstream from West Fork Mill Creek Dam, 1 $\frac{1}{4}$ miles east of Greenhills, Hamilton County, and 6 miles upstream from mouth.

Drainage area.--29.9 sq mi.

Records available.--June 1945 to September 1953.

Gage.--Water-stage recorder. Datum of gage 629.42 ft above mean sea level, adjustment of 1912.

Average discharge.--8 years (1945-53), 30.8 cfs.

Extremes.--1945-53: Maximum discharge, 5,000 cfs May 25, 1947 (gage height, 8.54 ft), from rating curve extended above 2,000 cfs on basis of velocity-area study; no flow for many days.

Remarks.--Flow completely regulated by West Fork Mill Creek Reservoir beginning April 1953. Prior to that date flow regulated for short periods by reservoir.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.40	41.8	68.1	110	91.1	64.4	34.8	5.44	2.24	2.50	0.29	0.03	35.1
1952	.95	13.3	71.4	73.4	50.8	61.5	40.1	11.1	5.13	4.56	2.95	2.17	29.8
1953	.63	1.46	13.5	52.4	17.6	36.1	9.76	29.4	.63	3.10	.97	1.03	14.0

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.17	1.56	2.63	4.23	3.17	2.48	1.30	0.21	0.08	0.10	0.01	0.001	15.94
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	41.8	18.95
1951	1205	3,510	Jan. 14, 1951	0	35.1	1.17	15.94	32.8	-
1952	1235	2,070	Mar. 10, 1952	0	29.8	-	-	23.9	-
1953	1275	1,040	May 22, 1953	0	14.0	-	-	-	-

2575. West Fork Mill Creek at Woodlawn, Ohio

Location.--Lat 39°15'15", long 84°28'15", in NE $\frac{1}{4}$ sec.10, R.1, T.3, on left bank at upstream side of Riddle Road Bridge in Woodlawn, Hamilton County, 0.5 mile upstream from small tributary, 1.9 miles downstream from West Fork Mill Creek Dam, and 4.0 miles upstream from mouth.

Drainage area.--31.9 sq mi.

Records available.--December 1952 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 570.00 ft above mean sea level, adjustment of 1912 (Corps of Engineers bench mark).

Average discharge.--7 years (1953-60), 26.2 cfs.

Extremes.--1952-60: Maximum discharge, 2,000 cfs Apr. 4, 1956 (gage height, 6.82 ft); no flow for many days in most years.

Remarks.--Flow regulated by West Fork Mill Creek Reservoir beginning 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	69.9	15.8	40.6	10.1	37.9	0.17	2.30	0	0	-
1954	0	0.003	0.02	2.05	1.53	14.3	9.78	1.43	5.21	2.38	2.37	.01	3.26
1955	1.73	.84	6.79	13.2	111	104	17.6	6.19	1.68	5.84	0	26.5	24.0
1956	78.6	41.6	6.65	22.7	125	63.6	81.1	32.0	8.44	6.96	1.98	2.08	38.8
1957	.29	.27	11.1	20.9	50.4	11.1	141	69.8	20.2	13.2	7.18	5.00	28.9
1958	1.89	35.4	84.6	29.3	6.68	18.4	34.4	38.2	37.7	94.4	54.0	5.32	37.0
1959	1.68	5.05	9.65	168	63.0	49.5	15.8	17.5	14.6	5.42	2.27	.36	29.4
1960	1.16	8.61	19.9	43.9	54.7	20.9	11.5	11.4	31.9	52.5	9.18	2.08	22.2

MILL CREEK BASIN

Yearly discharge, in cubic feet per second, of West Fork Mill Creek at Woodlawn, Ohio

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	1275	1,300	May 22, 1953	-	-	-	-	14.9	-
1954	1335	680	Mar. 12, 1954	0	3.26	-	-	4.05	-
1955	1385	1,410	Mar. 22, 1955	0	24.0	-	-	33.9	-
1956	1435	2,000	Apr. 4, 1956	0	38.8	-	-	29.2	-
1957	1505	1,540	Apr. 6, 1957	0	28.9	-	-	38.1	-
1958	1555	1,300	Nov. 19, 1957	-	37.0	-	-	28.2	-
1959	1625	1,290	Jan. 23, 1959	0	29.4	-	-	30.5	-
1960	1705	1,280	Feb. 11, 1960	0	22.2	-	-	-	-

2580. West Fork Mill Creek at Lockland, Ohio

Location.--Lat 39°13'35", long 84°27'20", in NE $\frac{1}{4}$ sec.2, R.1, T.3, on downstream side of pier of Lock Street Bridge in Lockland, Hamilton County, 1.2 miles upstream from mouth.

Drainage area.--35.6 sq mi.

Records available.--October 1938 to June 1942, October 1943 to September 1957. Published as "at Arlington Heights" October 1938 to June 1942.

Gage.--Water-stage recorder. Datum of gage is 539.00 ft above mean sea level, Ohio River datum. Prior to June 23, 1942, at site 0.8 mile downstream at datum 10 ft lower.

Extremes.--1938-57: Maximum discharge, 6,310 cfs May 25, 1947 (gage height, 16.93 ft); no flow at times.

Remarks.--Some diversion by industrial plants above station. Flow supplemented by ground-water pumpage. Flow regulated by West Fork Mill Creek Reservoir beginning 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.88	55.4	87.9	138	128	87.8	44.6	7.09	5.04	5.32	2.81	2.96	47.4
1952	5.12	16.5	99.2	109	58.5	99.0	49.3	16.7	5.78	6.40	3.33	1.60	39.3
1953	1.43	5.15	16.4	72.6	15.7	40.4	12.2	41.7	1.71	4.00	1.63	3.05	18.2
1954	1.99	2.11	2.50	6.40	2.56	15.5	11.5	2.88	7.52	5.54	5.85	.68	5.44
1955	2.56	2.65	8.45	19.3	111	103	20.4	9.12	5.31	8.41	2.53	31.7	26.3
1956	78.8	47.1	11.3	24.4	141	77.3	85.1	34.1	10.6	9.74	2.54	3.89	43.4
1957	4.31	5.27	14.0	25.4	50.0	13.5	148	67.9	25.2	15.6	8.90	5.33	31.7
1958	-	-	-	-	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	56.5	-
1951	1205	3,510	(a)	0.9	47.4	-	-	44.8	-
1952	1235	1,660	Mar. 11, 1952	.1	39.3	-	-	31.0	-
1953	1275	1,200	May 22, 1953	.4	18.2	-	-	16.8	-
1954	1335	667	Mar. 12, 1954	0	5.44	-	-	6.04	-
1955	1385	1,280	Mar. 22, 1955	.1	26.3	-	-	36.7	-
1956	1435	1,840	Apr. 4, 1956	.4	43.4	-	-	33.9	-
1957	1505	1,420	Apr. 6, 1957	.1	31.7	-	-	-	-
1958	-	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-

a Dec. 3, 1950, Jan. 14, 1951.

2590. Mill Creek at Carthage, Ohio

Location.--Lat 39°12'05", long 84°28'10", in SW $\frac{1}{4}$ sec.1, R.1, T.3, on right bank 100 ft downstream from Anthony Wayne Avenue Bridge in Carthage, Hamilton County, 1 mile downstream from West Fork Mill Creek, and 11 miles upstream from mouth.

Drainage area.--116 sq mi.

Records available.--November 1946 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 512.00 ft above mean sea level, Ohio River datum. Prior to Oct. 1, 1954, at site 100 ft upstream at same datum.

Extremes.--1946-60: Maximum discharge, 8,900 cfs Jan. 21, 1959 (gage height, 16.17 ft), from rating curve extended above 2,800 cfs on basis of slope-area measurement of peak flow; no flow at times during 1948-49.

Remarks.--Some diversion by industrial plants above station. Flow supplemented at times by ground-water pumpage from wells in Mill Creek and Miami River basins. Some flow is diverted indirectly from streams as recharge for aquifer supplying wells. Flow regulated by West Fork Mill Creek Reservoir beginning 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	35.3	176	258	382	376	261	144	31.6	19.2	16.6	11.9	14.0	143
1952	12.4	44.3	265	320	206	294	179	60.0	24.5	19.2	11.8	11.6	121
1953	8.81	10.7	39.8	208	52.0	117	59.7	138	16.9	33.2	8.47	7.99	58.8
1954	10.1	11.4	13.2	15.9	12.5	24.7	22.6	13.1	32.7	45.9	19.5	8.29	19.2
1955	17.6	12.2	32.2	67.8	347	334	69.2	30.9	19.5	26.1	18.2	73.0	85.6
1956	166	129	41.6	77.9	410	221	233	79.3	42.1	47.6	16.7	16.4	122
1957	13.3	14.4	33.7	69.6	149	44.5	464	182	82.7	46.2	26.2	22.1	94.7
1958	14.8	109	306	135	35.6	67.1	132	141	116	357	164	27.9	135
1959	11.6	18.2	45.4	493	187	171	73.9	63.1	40.0	21.2	18.5	19.3	96.8
1960	18.1	28.1	47.6	109	149	60.3	38.9	43.7	124	114	30.0	18.4	64.6

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	178	-
1951	1205	6,440	Dec. 3, 1950	4.5	143	-	-	130	-
1952	1235	4,510	Mar. 11, 1952	.3	121	-	-	98.6	-
1953	1275	5,100	May 22, 1953	1.7	58.8	-	-	56.7	-
1954	1335	1,850	July 21, 1954	2.8	19.2	-	-	21.5	-
1955	1385	2,970	Mar. 21, 1955	1.7	85.6	-	-	109	-
1956	1435	3,930	Apr. 2, 1956	6.6	122	-	-	99.0	-
1957	1505	4,200	Apr. 4, 1957	4.0	94.7	-	-	126	-
1958	1555	4,860	July 31, 1958	3.5	135	-	-	105	-
1959	1625	8,900	Jan. 21, 1959	5.3	96.8	-	-	98.1	-
1960	1705	2,750	July 3, 1960	8.1	64.6	-	-	-	-

MIAMI RIVER BASIN

2607. Buckongahelas Creek near DeGraff, Ohio

Location.--Lat 40°20'50", long 83°53'30", in E $\frac{1}{2}$ sec.3, R.14, T.2, on right bank at downstream side of highway bridge, 2 miles downstream from Bluejacket Creek, 2 $\frac{1}{2}$ miles northeast of DeGraff, Logan County, and 4 miles upstream from mouth.

Drainage area.--37.5 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,008.76 ft above mean sea level, datum of 1929.

Extremes.--1957-60: Maximum discharge, 1,780 cfs Jan. 21, 1959 (gage height, 6.83 ft); minimum, 3.1 cfs Sept. 26, 28, 1960 (gage height, 1.11 ft).

Remarks.--Diurnal fluctuation caused by municipal plant operation in Bellefontaine.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	12.9	25.7	74.9	36.8	38.7	34.9	43.5	53.0	108	78.3	48.5	28.5	48.7
1959	18.8	18.3	16.8	119	100	56.9	55.2	39.0	16.4	16.5	8.12	6.88	39.1
1960	8.80	14.0	25.9	44.4	38.2	26.3	22.7	15.7	14.5	10.7	6.34	4.55	19.3

Monthly and yearly runoff, in inches, of Buckongahelas Creek near DeGraff, Ohio

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0.40	0.76	2.31	1.13	1.07	1.07	1.29	1.63	3.21	2.41	1.49	0.85	17.62
1959	.58	.54	.52	3.66	2.78	1.75	1.64	1.20	.49	.51	.25	.20	14.12
1960	.27	.42	.80	1.36	1.10	.81	.68	.48	.43	.33	.19	.14	7.01

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1958	1555	740	June 10, 1958	9.0	48.7	1.30	17.62	43.6	15.79
1959	1625	1,780	Jan. 21, 1959	4.3	39.1	1.04	14.12	38.6	13.97
1960	1705	350	Jan. 13, 1960	4.1	19.3	.515	7.01	-	-

2608. Stony Creek near DeGraff, Ohio

Location.--Lat 40°17'25", long 83°54'35", in NW $\frac{1}{4}$ sec.5, R.13, T.3, on right bank at downstream side of highway bridge, 1 $\frac{1}{2}$ miles south of DeGraff, Logan County, and 1 $\frac{1}{2}$ miles upstream from mouth.

Drainage area.--59.2 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 967.54 ft above mean sea level, datum of 1929.

Extremes.--1957-60: Maximum discharge, 2,770 cfs Jan. 22, 1959; maximum gage height, 11.48 ft Jan. 22, 1959 (backwater from Miami River); minimum discharge, 8.6 cfs Sept. 16, 17, 29, 30, 1960; minimum gage height, 1.33 ft Oct. 11, 1957.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	15.1	30.4	107	48.6	51.4	46.7	58.7	71.6	274	86.8	62.6	39.7	74.3
1959	28.2	28.5	27.7	218	165	88.0	74.1	58.4	28.3	51.5	17.4	15.8	64.6
1960	18.9	28.0	42.0	69.4	65.3	40.5	33.8	30.7	25.7	18.3	11.9	9.31	32.7

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0.29	0.57	2.09	0.95	0.90	0.91	1.11	1.40	5.17	1.70	1.22	0.75	17.06
1959	.55	.54	.54	4.24	2.90	1.72	1.40	1.14	.53	.61	.34	.30	14.81
1960	.37	.53	.82	1.35	1.19	.79	.64	.60	.48	.36	.23	.18	7.54

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1958	1555	2,250	June 10, 1958	12	74.3	1.26	17.06	68.5	15.74
1959	1625	2,770	Jan. 22, 1959	12	64.6	1.09	14.81	65.0	14.90
1960	1705	360	Jan. 15, 1960	9.0	32.7	.552	7.54	-	-

2615. Miami River at Sidney, Ohio

Location.--Lat 40°17'14", long 84°08'57", on right bank 100 ft upstream from North Street Bridge in Sidney, Shelby County, and half a mile downstream from Tawawa Creek.

Drainage area.--545 sq mi.

Records available.--February 1914 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 924.70 ft above mean sea level, adjustment of 1912. Prior to Sept. 18, 1919, staff gage at site 100 ft downstream at datum 1.76 ft higher. Sept. 18, 1919, to Aug. 19, 1925, staff gage at site 100 ft downstream at present datum.

Average discharge.--35 years (1925-60), 484 cfs.

Extremes.--1914-60: Maximum discharge, 20,700 cfs Mar. 20, 1927, from rating curve extended above 6,900 cfs on basis of velocity-area study; maximum gage height, 15.91 ft Jan. 21, 1959; minimum discharge, 7.4 cfs Sept. 23, 1935.
Maximum stage known, 19.6 ft Mar. 25, 1913, present datum (discharge, 44,000 cfs, computed by Miami Conservancy District).

Remarks.--Some regulation by Indian Lake (capacity, 45,900 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	370	762	1,502	1,389	1,521	1,072	822	547	184	92.8	47.8	45.3	692
1952	42.7	86.4	815	2,198	997	1,255	1,200	376	138	64.0	62.0	65.1	609
1953	43.5	49.6	129	552	351	575	214	1,166	166	87.0	177	38.2	297
1954	36.8	43.9	51.6	124	111	350	577	120	366	43.6	319	33.2	179
1955	170	125	254	534	1,141	1,407	302	110	67.2	150	51.5	44.9	359
1956	141	607	141	114	1,478	1,170	636	507	383	371	111	55.1	471
1957	62.2	92.9	144	374	492	314	2,500	710	1,101	925	93.3	108	573
1958	92.4	349	1,266	419	370	448	555	635	2,073	970	589	293	672
1959	116	256	214	1,920	1,598	814	705	455	123	92.7	60.9	58.0	528
1960	74.8	186	500	768	731	312	303	192	181	97.9	47.8	31.3	284

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	930	-
1951	1205	8,470	Dec. 3, 1950	36	692	-	-	550	-
1952	1235	10,800	Jan. 27, 1952	36	609	-	-	548	-
1953	1275	3,460	May 24, 1953	30	297	-	-	290	-
1954	1335	6,510	June 16, Aug. 5	26	179	-	-	215	-
1955	1385	4,470	Feb. 21, 1955	25	359	-	-	387	-
1956	1435	6,650	Feb. 25, 1956	36	471	-	-	423	-
1957	1505	9,210	June 29, 1957	36	573	-	-	692	-
1958	1555	9,700	June 10, 1958	55	672	-	-	578	-
1959	1625	16,800	Jan. 21, 1959	40	528	-	-	543	-
1960	1705	3,070	Feb. 10, 1960	26	284	-	-	-	-

2620. Loramie Creek at Lockington, Ohio

Location.--Lat 40°12'35", long 84°14'32", in NE $\frac{1}{4}$ sec.30, T.7 N., R.6 E., on left bank at downstream side of highway bridge, 1,300 ft downstream from Lockington Dam, half a mile northwest of Lockington, Shelby County, and $1\frac{1}{2}$ miles upstream from mouth.

Drainage area.--261 sq mi.

Records available.--October 1915 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 800.03 ft above mean sea level, adjustment of 1912. Prior to July 3, 1924, staff gage at same site at datum 75.96 ft higher. July 3, 1924, to Aug. 17, 1926, staff gage and Aug. 18 to Sept. 30, 1926, water-stage recorder, at same site at datum 74.96 ft higher.

Average discharge.--45 years (1915-60), 210 cfs.

Extremes.--1915-60: Maximum discharge, 10,400 cfs May 7, 1916 (gage height, 86.4 ft, present datum), from rating curve extended above 5,400 cfs; minimum, 2.0 cfs Aug. 19, 1931.

Maximum stage known, 91.6 ft, present datum, Mar. 25, 1913 (discharge, 25,600 cfs, at site above Turtle Creek, drainage area, 208 sq mi, computed by Miami Conservancy District).

Remarks.--Slight regulation by Lake Loramie (capacity, about 13,000 acre-ft). Flood flow regulated by Lockington retarding basin beginning in 1921.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	150	381	638	644	839	561	283	129	29.7	14.7	6.52	5.73	304
1952	6.04	30.3	537	986	495	614	537	106	20.7	12.6	44.0	56.7	287
1953	11.5	17.5	160	398	200	351	61.2	567	55.0	14.8	25.0	6.15	156
1954	4.29	6.34	7.87	60.6	37.2	212	258	53.4	57.4	7.31	121	6.79	69.4
1955	99.4	37.5	145	313	543	545	129	27.5	27.5	25.1	9.65	14.3	158
1956	92.8	449	43.1	30.3	749	355	292	271	123	24.4	12.2	9.43	201
1957	6.08	6.78	33.1	162	283	86.5	1,148	186	406	453	14.3	11.2	231
1958	14.7	80.9	713	119	168	162	228	228	1,754	456	188	123	352
1959	22.1	106	77.7	839	754	402	481	180	33.5	26.9	7.91	6.33	241
1960	12.4	39.7	169	378	368	155	98.8	83.0	69.0	47.0	8.84	4.35	119

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	410	-
1951	1205	4,820	Feb. 21, 1951	4.5	304	-	-	254	-
1952	1235	4,940	Jan. 27, 1952	4.7	287	-	-	255	-
1953	1275	3,200	May 17, 1953	4.0	156	-	-	142	-
1954	1335	2,420	Mar. 30, 1954	3.8	69.4	-	-	91.8	-
1955	1385	3,180	Feb. 21, 1955	3.5	158	-	-	182	-
1956	1435	4,700	Nov. 16, 1955	3.8	201	-	-	157	-
1957	1505	4,940	June 29, 1957	3.0	231	-	-	295	-
1958	1555	6,540	June 10, 1958	6.2	352	-	-	301	-
1959	1625	5,750	Jan. 22, 1959	3.7	241	-	-	243	-
1960	1705	2,360	Jan. 15, 1960	3.7	119	-	-	-	-

2630. Miami River at Taylorsville, Ohio

Location.--Lat 39°52'22", long 84°09'51", in SW $\frac{1}{4}$ sec.36, R.8, T.2, on left bank 600 ft downstream from Taylorsville Dam, three-quarters of a mile north of Taylorsville, Montgomery County, and $\frac{9}{16}$ miles upstream from Stillwater River.

Drainage area.--1,155 sq mi.

Records available.--January 1914 to September 1917 (published as "at Tadmor"), October 1921 to September 1960. Monthly discharge only for some periods, published in WSP1305. Gage-height records collected at site at Tadmor, January 1914 to July 1920, are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 700.08 ft above mean sea level, adjustment of 1912. Prior to October 1921, staff gage at site $1\frac{1}{2}$ miles upstream at different datum. Jan. 1, 1922, to Nov. 11, 1925, staff gage at site 600 ft upstream at outlet works of Taylorsville Dam at present datum.

Average discharge.--42 years (1914-17, 1921-60), 1,002 cfs.

Extremes.--1914-17, 1921-60: Maximum discharge, 31,400 cfs Jan. 22, 1959 (gage height, 75.44 ft); minimum, 30 cfs Jan. 2, 1945; minimum gage height, 61.01 ft Sept. 12, 13, 1960.

Flood in March 1913 reached a stage of 25.4 ft at site at Tadmor (discharge, 127,000 cfs, computed by Miami Conservancy District).

Remarks.--Flood flow regulated at retarding basins on Miami River just above station and on Loramie Creek at Lockington beginning in 1921. Low and medium flow slightly regulated by Indian Lake (capacity, 45,900 acre-ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	842	1,755	3,321	3,018	3,327	2,263	1,608	987	500	238	94.4	77.6	1,493
1952	84.2	179	1,751	4,385	3,209	2,657	2,406	750	289	123	150	158	1,262
1953	89.3	103	356	1,201	748	1,258	429	2,341	531	203	282	69.4	637
1954	64.0	73.6	97.8	215	204	686	1,121	275	650	89.2	489	69.5	336
1955	294	197	431	1,102	2,121	2,656	700	247	162	321	103	101	696
1956	394	1,659	380	243	3,072	2,447	1,501	968	821	520	190	102	1,014
1957	91.3	150	232	596	968	670	4,646	1,435	2,054	2,052	207	186	1,101
1958	168	587	2,782	900	746	931	1,202	1,482	5,567	2,055	1,359	572	1,531
1959	259	482	422	4,100	3,499	1,745	1,397	1,086	352	204	141	140	1,139
1960	134	287	814	1,368	1,454	613	603	437	444	213	101	65.5	541

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.84	1.70	3.31	3.01	3.00	2.26	1.55	0.98	0.48	0.24	0.09	0.07	17.53
1952	.08	.17	1.75	4.38	2.06	2.65	2.32	.75	.28	.12	.15	.15	14.86
1953	.09	.10	.36	1.20	.67	1.26	.41	2.34	.51	.20	.28	.07	7.49
1954	.06	.07	.19	.21	.18	.68	1.08	.27	.63	.09	.49	.07	3.35
1955	.29	.19	.43	1.10	1.92	2.65	.68	.25	.16	.32	.10	.10	8.19
1956	.39	1.61	.38	.24	2.44	1.45	.97	.79	.52	.19	.10	.10	11.95
1957	.09	.14	.23	.59	.87	.67	4.48	1.43	1.99	2.05	.21	.18	12.93
1958	.17	.57	2.78	.90	.67	.93	1.16	1.48	5.38	2.05	1.36	.55	18.00
1959	.26	.47	.42	4.09	3.16	1.74	1.35	1.08	.34	.20	.14	.14	13.39
1960	.15	.28	.81	1.36	1.36	.61	.58	.44	.43	.21	.10	.06	6.37

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	1,967	-	23.09
1951	1205	18,500	Dec. 4, 1950	53	1,493	1.29	17.53	1,166	-	13.68
1952	1235	21,500	Jan. 27, 1952	58	1,262	1.09	14.86	1,138	-	13.41
1953	1276	9,210	May 22, 1953	56	637	.552	7.49	611	-	7.17
1954	1335	7,520	June 17, 1954	52	336	.291	3.93	394	-	4.61
1955	1385	9,000	Feb. 22, 1955	52	696	.603	8.19	820	-	9.66
1956	1435	14,000	Feb. 26, 1956	58	1,014	.878	11.95	852	-	10.03
1957	1505	17,200	June 29, 1957	64	1,101	.953	12.93	1,360	-	15.99
1958	1555	21,400	June 14, 1958	106	1,531	1.33	18.00	1,329	-	15.63
1959	1625	31,400	Jan. 22, 1959	90	1,139	.986	13.39	1,146	-	13.46
1960	1705	6,310	Feb. 11, 1960	56	541	.468	6.37	-	-	-

MIAMI RIVER BASIN

2640. Greenville Creek near Bradford, Ohio

Location.--Lat 40°06'08", long 84°25'48", between secs. 33 and 34, T.9 N., R.4 E., on left bank at downstream side of bridge on State Highway 721, 1 $\frac{1}{2}$ miles south of Bradford, on line between Darke and Miami Counties, and 6 miles upstream from mouth.

Drainage area.--195 sq mi.

Records available.--October 1930 to September 1960. Prior to April 1931, monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 948.9 ft above mean sea level, adjustment of 1912. Prior to Oct. 1, 1942, chain gage at same site and datum.

Average discharge.--30 years (1930-60), 170 cfs.

Extremes.--1930-60: Maximum discharge, 9,320 cfs May 14, 1933 (gage height, 9.2 ft); minimum, 6.7 cfs Aug. 4, 5, 1934.

Flood in March 1913 reached a stage of 12.1 ft (discharge, 18,200 cfs, at site with drainage area of 213 sq mi, computed by Miami Conservancy District).

Remarks.--Some diurnal fluctuation caused by mill above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	133	320	486	502	734	415	314	181	213	121	32.9	27.4	287
1952	25.2	79.5	490	679	395	444	382	134	58.7	53.6	57.5	65.1	239
1953	28.5	43.7	129	222	155	269	102	522	97.0	60.1	44.6	19.6	142
1954	20.0	23.2	27.9	54.4	43.5	138	195	66.3	57.4	22.5	24.8	12.8	57.1
1955	32.5	30.3	69.0	187	335	449	169	62.7	57.1	54.4	23.7	37.1	124
1956	101	368	89.5	58.0	655	257	313	138	144	58.3	25.0	16.0	182
1957	17.7	23.6	47.8	102	147	87.9	668	251	585	212	39.1	28.5	183
1958	34.5	70.8	508	179	101	131	200	287	1,142	435	311	80.4	290
1959	61.1	118	98.1	599	544	318	269	155	56.7	33.8	25.3	26.0	190
1960	36.5	57.4	94.7	179	276	131	108	78.1	55.8	39.5	22.2	13.3	90.1

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.79	1.83	2.87	2.96	3.92	2.46	1.80	1.07	1.22	0.72	0.19	0.16	19.99
1952	.15	.46	2.89	4.01	2.19	2.63	2.19	.79	.34	.32	.34	.37	16.68
1953	.17	.25	.76	1.31	.83	1.59	.58	3.09	.55	.36	.26	.11	9.86
1954	.12	.13	.16	.32	.23	.82	1.12	.39	.33	.13	.15	.07	3.97
1955	.19	.17	.41	1.11	1.79	2.65	.97	.37	.33	.32	.14	.21	8.66
1956	.60	2.11	.53	.34	3.62	1.52	1.80	.82	.82	.34	.15	.09	12.74
1957	.10	.14	.28	.60	.79	.52	3.83	1.49	3.35	1.26	.23	.16	12.75
1958	.20	.40	3.01	1.06	.54	.77	1.15	1.70	6.54	2.57	1.83	.46	20.23
1959	.36	.68	.58	3.54	2.90	1.88	1.54	.92	.32	.20	.15	.15	13.22
1960	.22	.33	.56	1.06	1.53	.77	.61	.46	.32	.23	.13	.08	6.30

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	363	25.28
1951	1205	4,790	Feb. 21, 1951	23	287	1.47	19.99	259	18.00
1952	1235	6,620	Jan. 27, 1952	20	239	1.23	16.68	206	14.36
1953	1275	2,940	May 23, 1953	16	142	.728	9.86	131	9.09
1954	1335	1,320	Mar. 30, 1954	10	57.1	.293	3.97	82.2	4.33
1955	1385	1,780	Mar. 22, 1955	9.5	124	.636	8.66	160	11.13
1956	1435	4,320	Feb. 26, 1956	12	182	.933	12.74	144	10.02
1957	1505	5,460	June 28, 1957	10	183	.938	12.75	227	15.84
1958	1555	5,860	June 14, 1958	21	290	1.49	20.23	262	18.24
1959	1625	5,990	Jan. 21, 1959	15	190	.974	13.22	183	12.71
1960	1707	1,480	Feb. 11, 1960	9.2	90.1	.462	6.30	-	-

2650. Stillwater River at Pleasant Hill, Ohio

Location.--Lat 40°03'28", long 84°21'22", in SE $\frac{1}{4}$ sec.18, T.7 N., R.5 E., on left bank at downstream side of highway bridge, three-quarters of a mile northwest of Pleasant Hill, Miami County, and 2 miles downstream from Painter Creek.

Drainage area.--502 sq mi.

Records available.--October 1916 to September 1928, October 1934 to September 1960.

Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at same site since March 1922 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 846.73 ft above mean sea level, adjustment of 1912. Prior to Dec. 23, 1934, staff or chain gage at same site and datum.

Average discharge.--38 years (1916-28, 1934-60), 449 cfs.

Extremes.--1916-28, 1934-60: Maximum discharge, 26,400 cfs Jan. 14, 1937, from rating curve extended above 14,000 cfs on basis of velocity-area study; maximum gage height, 17.98 ft Jan. 21, 1959; minimum discharge observed, 4 cfs Oct. 17, 1920, July 12, 22, Aug. 30, 1921.

Maximum discharge known, 51,400 cfs Mar. 25, 1913 (gage height, 17.5 ft) at site about 3 miles upstream computed by Miami Conservancy District. This stage is not comparable with present gage heights because of failure of levee in 1913.

Remarks.--Diurnal fluctuation caused by powerplant on Greenville Creek.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	385	877	1,236	1,310	1,800	1,094	676	394	369	181	42.0	34.1	693
1952	36.6	113	1,151	1,759	1,938	1,114	943	287	97.7	65.5	94.9	113	560
1953	38.5	63.9	264	599	372	696	191	1,213	275	84.6	74.2	25.8	326
1954	24.8	26.7	44.9	107	66.9	353	436	137	114	33.0	42.0	14.9	115
1955	81.2	48.8	153	451	857	1,174	378	118	126	144	38.1	78.9	301
1956	257	969	176	96.0	1,670	634	764	333	432	112	44.7	27.4	452
1957	25.6	42.8	93.2	292	470	228	1,898	756	1,538	712	64.7	44.3	510
1958	55.2	140	1,336	378	260	328	516	706	5,334	1,024	885	167	762
1959	100	285	214	1,694	1,411	857	680	346	102	52.3	38.1	37.3	478
1960	54.0	83.5	202	502	711	329	242	137	103	66.3	32.4	18.5	205

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.88	1.95	2.84	3.01	3.74	2.51	1.51	0.90	0.82	0.42	0.10	0.08	18.76
1952	.08	.25	2.64	4.04	2.02	2.56	2.10	.66	.22	.15	.22	.25	15.19
1953	.09	.14	.61	1.37	.77	1.60	.42	2.79	.61	.19	.17	.06	8.82
1954	.06	.06	.10	.25	.14	.76	.97	.31	.25	.08	.10	.03	3.11
1955	.19	.11	.35	1.04	1.78	2.70	.84	.27	.28	.33	.09	.18	8.16
1956	.59	2.15	.40	.22	3.59	1.45	1.70	.76	.96	.26	.10	.06	12.24
1957	.06	.09	.21	.87	.97	.52	4.22	1.74	3.41	1.64	.15	.10	13.78
1958	.13	.31	3.07	.87	.54	.75	1.15	1.63	7.41	2.35	2.03	.37	20.61
1959	.23	.59	.49	3.88	2.93	1.97	1.51	.79	.23	.12	.09	.08	12.91
1960	.12	.19	.46	1.15	1.53	.76	.54	.31	.23	.15	.07	.04	5.55

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	940	25.41
1951	1205	14,700	Feb. 21, 1951	27	693	1.38	18.76	594	16.66
1952	1235	18,300	Jan. 27, 1952	24	560	1.12	15.19	481	13.06
1953	1275	7,660	May 23, 1953	17	326	.649	8.82	303	8.20
1954	1335	4,100	Mar. 30, 1954	7.3	115	.229	3.11	131	3.54
1955	1385	5,330	Mar. 22, 1955	7.8	301	.600	8.16	393	10.65
1956	1435	11,200	Feb. 25, 1956	20	452	.900	12.24	349	9.46
1957	1505	14,200	June 28, 1957	18	510	1.02	13.78	625	16.93
1958	1555	19,000	June 10, 1958	33	762	1.52	20.61	681	18.41
1959	1625	19,300	Jan. 21, 1959	25	478	.952	12.91	458	12.37
1960	1705	4,520	Feb. 10, 1960	14	205	.408	5.55	-	-

MIAMI RIVER BASIN

2660. Stillwater River at Englewood, Ohio

Location.--Lat 39°52'10", long 84°16'57", in NW $\frac{1}{4}$ sec.23, T.5 N., R.5 E., on right bank 1,000 ft downstream from Englewood Dam, 1 mile southeast of Englewood, Montgomery County, and 8 $\frac{1}{2}$ miles upstream from mouth.

Drainage area.--646 sq mi.

Records available.--October 1925 to September 1960. Monthly discharge only for October 1925, published in WSP 1305.

Gage.--Water-stage recorder and concrete control. Datum of gage is 699.97 ft above mean sea level, adjustment of 1912.

Average discharge.--35 years (1925-60), 581 cfs.

Extremes.--1925-60: Maximum discharge, 9,980 cfs June 15, 1958 (gage height, 80.88 ft); minimum, 3.7 cfs Sept. 30, Oct. 1, 1944 (gage height, 71.36 ft).
Maximum discharge during flood in March 1913, 85,400 cfs, at site 1 mile downstream, computed by Miami Conservancy District.

Remarks.--Flood flow regulated by Englewood retarding basin. Diurnal fluctuation caused by powerplants at West Milton and on Greenville Creek.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	605	1,225	1,663	1,886	2,470	1,582	1,034	507	485	272	57.9	45.2	977
1952	43.7	136	1,438	2,409	1,526	1,649	1,459	407	138	77.2	111	131.9	793
1953	49.7	77.8	320	794	506	997	269	1,681	415	108	82.8	31.6	446
1954	28.5	37.2	51.0	127	89.4	379	648	181	128	40.1	48.7	19.3	148
1955	97.3	51.5	183	569	1,151	1,666	557	155	149	333	59.2	68.7	416
1956	318	1,370	252	132	2,094	974	1,081	448	563	147	62.5	34.6	613
1957	30.5	57.9	124	357	610	368	2,532	1,115	1,453	1,256	88.0	62.9	668
1958	70.1	197	1,744	530	336	492	741	1,092	4,244	1,283	1,342	228	1,027
1959	142	331	299	2,355	2,056	1,138	827	528	159	75.4	59.9	50.4	660
1960	66.7	111	261	607	996	398	327	172	144	87.9	39.3	20.4	266

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.08	2.12	2.96	3.37	3.98	2.62	1.78	0.90	0.84	0.49	0.10	0.08	20.52
1952	.08	.24	2.57	4.30	2.54	2.94	2.52	.73	.24	.14	.20	.23	16.73
1953	.09	.13	.57	1.42	.82	1.78	.46	3.00	.72	.19	.15	.05	9.38
1954	.05	.06	.09	.23	.14	.68	1.12	.32	.22	.07	.09	.03	3.10
1955	.17	.09	.33	1.02	1.85	2.97	.96	.28	.26	.59	.11	.12	8.75
1956	.57	2.36	.45	.24	3.49	1.74	1.86	.80	.97	.26	.11	.06	12.91
1957	.05	.10	.22	.64	.98	.66	4.37	1.99	2.51	2.24	.16	.11	14.03
1958	.13	.34	3.11	.95	.54	.88	1.28	1.95	7.33	2.29	2.40	.39	21.59
1959	.25	.57	.53	4.21	3.31	2.03	1.43	.94	.27	.13	.11	.09	13.87
1960	.12	.19	.47	1.08	1.66	.71	.56	.31	.25	.16	.07	.04	5.62

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,269	26.65
1951	1205	8,000	Feb. 22, 1951	36	977	1.51	20.52	821	17.25
1952	1235	8,600	Jan. 28, 1952	34	793	1.23	16.73	694	14.63
1953	1275	6,280	May 24, 1953	25	446	.690	9.38	418	8.79
1954	1335	4,000	Mar. 30, 1954	11	148	.229	3.10	166	3.49
1955	1385	5,530	Mar. 22, 1955	14	416	.644	8.75	549	11.54
1956	1435	6,910	Feb. 27, 1956	27	613	.949	12.91	471	9.90
1957	1505	8,200	June 30, 1957	25	668	1.03	14.03	820	17.24
1958	1555	9,980	June 15, 1958	39	1,027	1.59	21.59	921	19.36
1959	1625	9,450	Jan. 23, 1959	28	660	1.02	13.87	633	13.30
1960	1705	5,390	Feb. 11, 1960	14	266	.412	5.62	-	-

2665. Mad River at Zanesfield, Ohio

Location--Lat 40°21'05", long 83°40'25", on left bank at upstream side of highway bridge adjacent to U.S. Highway 33, 0.8 mile upstream from unnamed stream in Hadley Bottom and 1 mile north of Zanesfield, Logan County.

Drainage area--6.41 sq mi.

Records available--August 1946 to September 1960.

Gage--Water-stage recorder. Datum of gage is 1,208.28 ft above mean sea level, datum of 1929.

Average discharge--14 years (1946-60), 8.22 cfs.

Extremes--1946-60: Maximum discharge, 1,380 cfs Apr. 11, 1948 (gage height, 6.76 ft), from rating curve extended above 220 cfs on basis of critical-depth measurements at gage heights 5.29 and 4.46 ft; minimum, 0.6 cfs Jan. 12, 13, 1954 (result of freezeup), Sept. 17-19, 1955; minimum gage height, 0.63 ft Feb. 7, 12, 1954, Sept. 17-19, 1955.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.10	11.1	15.8	18.6	19.3	16.4	17.9	15.4	5.61	2.93	1.45	1.56	10.9
1952	1.33	2.31	14.1	24.4	18.0	21.4	22.0	11.3	4.87	1.79	1.58	1.37	10.4
1953	1.21	1.31	2.27	6.36	4.77	8.88	4.91	14.0	3.19	1.78	1.99	1.09	4.33
1954	1.00	1.03	1.27	2.89	2.55	6.00	6.54	5.45	3.00	1.69	1.87	1.13	2.87
1955	3.44	2.98	4.66	6.12	15.5	21.2	7.95	3.37	2.05	1.40	1.26	1.12	5.87
1956	1.75	6.04	2.21	1.97	17.2	15.1	9.80	14.5	6.50	8.96	2.48	1.54	7.30
1957	1.58	1.67	2.77	5.16	5.74	3.75	27.6	9.78	12.8	5.96	2.39	3.23	6.83
1958	2.19	5.11	16.6	6.70	7.70	7.46	10.8	11.4	20.3	24.1	9.19	6.10	10.7
1959	3.93	3.61	3.37	23.2	20.5	12.1	13.8	11.5	4.20	4.91	2.04	1.72	8.67
1960	2.28	3.58	7.36	12.4	10.7	9.02	6.96	4.59	3.50	2.16	1.33	.99	5.39

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.92	1.93	2.84	3.34	3.13	2.95	3.11	2.77	0.98	0.53	0.26	0.27	23.03
1952	.24	.40	2.54	4.39	3.03	3.85	3.83	2.03	.85	.32	.25	.24	21.97
1953	.22	.23	.41	1.14	.77	1.60	.85	2.51	.56	.32	.36	.19	9.16
1954	.18	.18	.23	.52	.41	1.08	1.14	.98	.52	.30	.34	.20	6.08
1955	.62	.52	.84	1.10	2.52	3.82	1.38	.61	.36	.25	.23	.20	12.45
1956	.31	1.05	.40	.35	2.89	2.72	1.71	2.61	1.13	1.61	.45	.27	15.50
1957	.28	.29	.50	.93	.93	.67	4.81	1.76	2.25	1.07	.43	.56	14.46
1958	.39	.89	2.99	1.21	1.25	1.34	1.87	2.05	3.54	4.34	1.65	1.06	22.58
1959	.71	.63	.61	4.17	3.33	2.18	2.40	2.06	.73	.88	.37	.30	18.37
1960	.41	.62	1.33	2.22	1.80	1.63	1.22	.83	.61	.39	.24	.17	11.47

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	12.7	26.97
1951	1205	358	Nov. 20, 1950	1.3	10.9	1.70	23.03	9.70	20.52
1952	1235	540	Jan. 26, 1952	1.0	10.4	1.62	21.97	9.26	19.65
1953	1275	209	Mar. 3, 1953	.9	4.33	.676	9.16	4.20	8.89
1954	1335	149	Jan. 27, 1954	.6	2.87	.448	6.08	3.52	7.47
1955	1385	270	Feb. 21, 1955	.6	5.87	.916	12.45	5.77	12.23
1956	1435	870	Feb. 25, 1956	1.0	7.30	1.14	15.50	6.97	14.81
1957	1505	468	Apr. 18, 1957	1.4	6.83	1.07	14.46	8.34	17.66
1958	1555	734	July 7, 1958	1.6	10.7	1.67	22.58	9.56	20.26
1959	1625	797	Jan. 21, 1959	1.3	8.67	1.35	18.37	8.87	18.78
1960	1705	172	Jan. 13, 1960	.9	5.39	.941	11.47	-	-

MIAMI RIVER BASIN

2670. Mad River near Urbana, Ohio

Location.--Lat 40°06'27", long 83°47'57", on west line of sec.35, T.5 E., R.11 N., on left bank at downstream side of bridge on U.S. Highway 36, 1½ miles upstream from Dugan Run, 1½ miles downstream from Muddy Creek, and 2½ miles west of Urbana, Champaign County.

Drainage area.--157 sq mi.

Records available.--September 1925 to September 1931, August 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 985.0 ft above mean sea level, adjustment of 1912. Prior to May 18, 1930, chain gage at same site and datum. May 18, 1930, to Sept. 30, 1931, staff gage at site 600 ft downstream at datum 0.36 ft lower. Aug. 1 to Sept. 25, 1939, staff gage at present site and datum.

Average discharge.--27 years (1925-31, 1939-60), 145 cfs.

Extremes.--1925-31, 1939-60: Maximum discharge, 8,000 cfs Jan. 22, 1959 (gage height, 12.05 ft), from rating curve extended above 4,000 cfs on basis of estimate of peak flow based on contracted-opening measurement at site 3 miles downstream with drainage area of 235 sq mi, adjusted to gage site by 0.8 power of the drainage-area ratio; minimum daily, 24 cfs Feb. 2, 3, 1945.

Revisions.--Some periods for the water year 1929 were revised in WSP 1625; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches
February 1929.....	378	2.41	2.51
Water year 1928-29.....	189	1.20	16.35
Calendar year 1929.....	206	1.51	17.85

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	105	166	331	346	413	313	284	209	179	129	87.8	72.8	219
1952	68.3	81.0	190	403	326	338	329	225	154	102	81.2	73.7	197
1953	63.3	56.5	81.2	109	102	147	90.7	177	99.0	69.8	65.2	40.1	91.9
1954	43.1	41.4	43.3	51.6	51.5	92.2	104	71.2	63.6	41.8	56.9	36.1	56.1
1955	52.1	48.4	62.6	89.9	210	292	146	93.0	69.8	57.2	45.0	38.7	99.8
1956	48.1	111	64.4	54.7	298	217	205	204	146	115	75.6	57.8	132
1957	52.2	50.1	56.4	77.6	69.2	328	186	163	158	72.1	63.0	113	113
1958	57.6	81.4	221	146	139	113	152	193	485	301	219	161	189
1959	118	102	95.4	522	452	251	205	195	126	93.5	67.2	63.3	189
1960	60.5	71.2	99.8	147	165	116	103	89.5	92.1	75.0	56.2	45.2	93.1

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.77	1.18	2.43	2.54	2.74	2.29	2.02	1.53	1.27	0.95	0.64	0.52	18.88
1952	.50	.58	1.40	2.96	2.24	2.48	2.34	1.65	1.09	.75	.60	.52	17.11
1953	.46	.40	.60	.80	.68	1.08	.64	1.30	.70	.51	.48	.28	7.93
1954	.32	.29	.32	.38	.34	.68	.74	.52	.45	.31	.42	.26	5.03
1955	.38	.34	.46	.66	1.40	2.14	1.04	.68	.50	.42	.33	.27	8.62
1956	.35	.79	.47	.40	2.05	1.59	1.46	1.50	1.04	.84	.56	.41	11.46
1957	.38	.36	.41	.57	.51	.51	2.33	1.36	1.16	1.16	.53	.45	9.73
1958	.42	.58	1.63	1.07	.92	.83	1.08	1.42	3.45	2.21	1.60	1.15	16.36
1959	.87	.72	.70	3.83	3.00	1.84	1.46	1.43	.90	.69	.49	.45	16.38
1960	.44	.51	.73	1.08	1.13	.85	.73	.66	.65	.55	.41	.32	8.06

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	263	22.70
1951	1205	2,950	Feb. 21, 1951	68	219	1.39	18.88	196	16.98
1952	1235	4,420	Jan. 27, 1952	61	197	1.25	17.11	186	16.09
1953	1275	1,390	May 17, 1953	34	91.9	.585	7.93	85.7	7.40
1954	1335	1,600	Mar. 30, 1954	27	58.1	.370	5.03	61.1	5.28
1955	1385	2,150	Feb. 21, 1955	34	99.8	.636	8.62	105	9.05
1956	1435, 1505	2,620	Feb. 25, 1956	42	132	.841	11.46	126	10.91
1957	1505	2,240	Apr. 4, 1957	45	113	.720	9.73	130	11.21
1958	1555	3,080	June 10, 1958	54	189	1.20	16.36	185	16.02
1959	1625	8,000	Jan. 22, 1959	57	189	1.20	16.38	182	15.77
1960	1705	848	Jan. 15, 1960	43	93.1	.593	8.06	-	-

Location.--Lat 39°59'15", long 83°42'55", in NE $\frac{1}{4}$ sec.9, R.10, T.5, on right bank at downstream side of New York Central Railroad bridge at south edge of New Moorefield, Clark County, $\frac{1}{2}$ miles downstream from East Fork, and 5 miles upstream from Beaver Creek.

Records available.--October 1942 to September 1958.

Average discharge.--16 years (1942-58), 65.6 cfs.

Extremes--1942-58: Maximum discharge, 5,150 cfs (revised) Feb. 14, 1958 (gage height, 7.46 ft), from rating curve extended above 1,700 cfs on basis of contracted-opening measurement at gage height 7.7 ft in gage well (7.98 ft, from outside floodmark), for flood of Jan. 21, 1959; minimum, 12 cfs Aug. 11, 1944, Aug. 21, 22, Sept. 9, 1955. Flood of Jan. 21, 1959, reached a stage of 7.7 ft in gage well, 7.98 ft from outside floodmark (discharge, 8,130 cfs on basis of contracted-opening measurement of peak flow).

Month	Mean	Per square mile	Runoff in inches	Momentary maximum		Minimum day
				Discharge	Date	
February 1948.....	131	1.95	2.10	-	-	-
Water year 1947-48....	79.8	1.19	16.15	5,150	Feb. 14, 1948	26
Calendar year 1948....	82.6	1.23	16.70	-	-	-

[illegible][illegible][illegible]

MIAMI RIVER BASIN

2685. Beaver Creek near Springfield, Ohio

Location.--Lat 39°56'25", long 83°44'55", in sec.18, R.9, T.5, at bridge on Croft Road (revised), three-quarters of a mile upstream from mouth and 3½ miles east of center of Springfield, Clark County.

Drainage area.--37.3 sq mi.

Records available.--October 1942 to September 1958.

Gage.--Water-stage recorder and wire-weight gage. Datum of gage is 960.98 ft above mean sea level, unadjusted. Prior to Nov. 9, 1942, chain gage at same site and datum.

Average discharge.--16 years (1942-58), 39.0 cfs.

Extremes.--1942-58: Maximum discharge, 4,980 Feb. 13, 1948 (gage height, 7.95 ft, in gage well), from rating curve extended above 2,100 cfs; minimum, 3.3 cfs Jan. 25, 1945. Flood of Jan. 21, 1959, reached a stage of 9.0 ft from floodmark (discharge, 4,950 cfs on basis of slope-area measurement of peak flow).

Monthly and yearly mean discharge, in cubic feet per second

[illegible]

Monthly and yearly runoff, in inches

[illegible]

Yearly discharge, in cubic feet per second

[illegible]

2695. Mad River near Springfield, Ohio

Location.--Lat 39°55'23", long 83°52'13", in NW $\frac{1}{4}$ sec.16, R.9, T.4, on right bank 150 ft downstream from Rock Run, 250 ft downstream from bridge on Lower Valley Pike, 2 miles downstream from Buck Creek, and 3 miles west of Springfield, Clark County.

Drainage area.--485 sq mi.

Records available.--January 1904 to March 1906 (fragmentary), February 1914 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 881.42 ft above mean sea level, adjustment of 1912. Jan. 1, 1904, to Mar. 31, 1906, chain gage at site a third of a mile downstream at different datum. Feb. 1, 1914, to Feb. 29, 1924, staff gage at site $1\frac{1}{2}$ miles upstream at datum 6.39 ft higher. Mar. 1, 1924, to July 31, 1925, chain gage at site 300 ft upstream at same datum.

Average discharge.--47 years (1904-5, 1914-60), 488 cfs.

Extremes.--1904-5, 1914-60: Maximum discharge, 30,500 cfs Jan. 21, 1959 (gage height, 15.76 ft), from rating curve extended above 14,000 cfs on basis of slope-area and contracted-opening measurements of peak flow; minimum, 30 cfs Sept. 15, 1904.

Maximum stage known, 16.9 ft Mar. 25, 1913, present datum (discharge, 55,400 cfs, computed by Miami Conservancy District).

Revisions.--The momentary maximum discharge for the water year 1924, published in WSP 1305, has been revised to 18,300 cfs June 8, 1924 (gage height, 13.3 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	358	538	1,066	1,176	1,442	1,009	858	630	526	350	224	218	695
1952	219	268	596	1,497	1,090	1,089	1,027	677	421	283	237	228	636
1953	208	194	269	433	378	490	344	759	317	216	180	137	327
1954	144	155	168	189	194	303	353	213	349	139	177	135	210
1955	179	153	202	292	776	896	408	264	199	238	128	130	320
1956	181	513	243	195	973	759	737	580	423	366	218	170	444
1957	155	150	180	256	301	247	1,341	713	550	545	225	200	404
1958	188	276	897	577	429	413	596	776	1,751	915	794	466	674
1959	350	337	323	1,906	1,485	814	593	596	337	296	239	214	620
1960	203	239	344	445	521	375	347	411	401	254	192	149	323

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.85	1.24	2.54	2.79	3.09	2.40	1.98	1.50	1.20	0.83	0.53	0.50	19.45
1952	.52	.62	1.42	3.56	2.43	2.62	2.36	1.61	.97	.67	.56	.52	17.86
1953	.49	.45	.64	1.03	.81	1.16	.79	1.80	.73	.51	.43	.31	9.15
1954	.44	.36	.40	.45	.42	.72	.81	.51	.80	.33	.42	.31	5.87
1955	.43	.35	.48	.69	1.67	2.13	.94	.63	.46	.57	.30	.30	8.95
1956	.43	1.18	.58	.46	2.17	1.80	1.70	1.38	.97	.87	.52	.39	12.45
1957	.37	.34	.43	.61	.65	.59	3.08	1.70	1.26	1.29	.53	.46	11.31
1958	.45	.63	2.13	1.37	.92	.98	1.37	1.84	4.03	2.18	1.89	1.07	18.86
1959	.83	.78	.77	4.53	3.19	1.94	1.36	1.42	.78	.70	.57	.49	17.36
1960	.48	.55	.82	1.06	1.15	.89	.80	.98	.92	.60	.46	.34	9.05

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	804	22.49
1951	1205	12,100	Dec. 3, 1950	183	695	1.43	19.45	621	17.38
1952	1235	18,000	Jan. 26, 1952	190	636	1.31	17.86	601	16.88
1953	1275	6,360	May 22, 1953	125	327	.674	9.15	310	8.67
1954	1335	4,090	June 17, 1954	113	210	.433	5.87	215	6.03
1955	1385	4,810	Mar. 22, 1955	99	320	.660	8.95	353	9.88
1956	1435	7,340	Nov. 16, 1955	145	444	.915	12.45	406	11.40
1957	1505	12,400	Apr. 4, 1957	133	404	.833	11.31	478	13.58
1958	1555	11,700	June 14, 1958	169	674	1.39	18.86	644	18.03
1959	1625	30,500	Jan. 21, 1959	188	620	1.28	17.36	601	16.83
1960	1705	4,120	May 27, 1960	142	323	.666	9.05	-	-

2700. Mad River near Dayton, Ohio

Location.--Lat 39°47'48", long 84°05'32", in SW¹/₄ sec.7, R.8, T.2, on left bank 600 ft downstream from Huffman Dam, 2½ miles downstream from Mud Run, and 6 miles northeast of Dayton, Montgomery County.

Drainage area.--632 sq mi.

Records available.--October 1914 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 699.95 ft above mean sea level, adjustment of 1912. Nov. 19, 1914, to Sept. 30, 1921, staff gage at site 1 mile upstream at datum 83.96 ft higher. Oct. 1, 1924, to Sept. 30, 1926, staff gage and Oct. 1, 1926, to July 21, 1957, water-stage recorder, at present site and datum. July 22, 1957, to Jan. 20, 1959, staff gage at site 1,000 ft downstream at same datum.

Average discharge.--46 years (1914-60), 627 cfs.

Extremes.--1914-60: Maximum discharge, 21,200 cfs Jan. 22, 1959 (based on Huffman retarding basin outflow records); maximum gage height, 87.9 ft Feb. 26, 1929; minimum discharge, 91 cfs Aug. 6, 9, 1934, but may have been less during period 1921-24. Maximum stage known, 14.0 ft Mar. 25, 1913, original site and datum (discharge, 75,700 cfs, computed by Miami Conservancy District).

Remarks.--Flood flow regulated by Huffman retarding basin beginning in 1921.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	462	662	1,340	1,540	1,839	1,300	1,118	807	563	389	250	232	870
1952	244	326	763	1,915	1,418	1,413	1,308	809	510	315	244	243	791
1953	229	218	297	537	535	654	434	865	376	235	222	160	397
1954	145	164	172	206	220	335	487	250	404	145	180	136	237
1955	181	160	211	384	992	1,212	538	303	221	264	141	146	393
1956	214	701	326	238	1,204	954	930	686	484	412	256	194	546
1957	182	205	262	333	429	325	1,782	990	728	679	290	252	537
1958	220	377	1,069	735	561	540	815	1,054	2,108	1,219	1,062	603	864
1959	430	418	390	2,340	1,926	1,060	737	774	413	341	323	250	778
1960	233	302	419	559	667	449	428	460	466	292	207	155	385

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.84	1.17	2.44	2.81	3.03	2.38	1.98	1.48	0.99	0.71	0.46	0.41	18.70
1952	.44	.58	1.40	3.49	2.42	2.58	2.51	1.48	.90	.57	.44	.43	17.04
1953	.42	.38	.54	.98	.88	1.19	.77	1.58	.66	.43	.40	.28	8.51
1954	.26	.29	.31	.58	.36	.61	.86	.46	.71	.26	.33	.24	5.07
1955	.33	.28	.39	.70	1.64	2.21	.95	.55	.39	.48	.26	.26	8.44
1956	.39	1.24	.59	.43	2.06	1.74	1.64	1.26	.85	.75	.47	.34	11.76
1957	.33	.36	.48	.61	.71	.59	3.15	1.81	1.28	1.23	.53	.45	11.53
1958	.40	.67	1.95	1.34	.92	.98	1.44	1.92	3.73	2.22	1.91	1.06	18.54
1959	.78	.74	.71	4.27	3.18	1.94	1.30	1.41	.73	.62	.59	.44	16.71
1960	.43	.53	.76	1.02	1.14	.82	.76	.84	.82	.53	.38	.27	8.30

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,001	21.47
1951	1205	9,680	Dec. 4, 1950	203	870	1.58	18.70	775	16.67
1952	1235	13,300	Jan. 27, 1952	200	791	1.25	17.04	741	15.86
1953	1275	5,340	May 23, 1953	142	397	.628	8.51	375	8.03
1954	1335	2,750	June 9, 1954	124	237	.375	5.07	243	5.21
1955	1385	4,680	Mar. 22, 1955	111	393	.622	8.44	450	9.66
1956	1435	6,430	Nov. 16, 1955	168	546	.864	11.76	497	10.71
1957	1505	10,400	Apr. 5, 1957	168	537	.850	11.53	623	13.38
1958	1555	10,700	June 14, 1958	194	864	1.37	18.54	828	17.75
1959	1625	21,200	Jan. 22, 1959	208	754	1.23	16.71	754	16.20
1960	1705	3,490	May 28, 1960	136	385	.609	8.30	-	-

2705. Miami River at Dayton, Ohio

Location.--Lat 39°45'55", long 84°11'51", on left bank 1,000 ft downstream from Main Street Bridge in Dayton, Montgomery County, and three-quarters of a mile downstream from Mad River.

Drainage area.--2,513 sq mi.

Records available.--April to September 1905, January to September 1906, January 1907 to December 1909 (gage heights only), April 1913 to September 1960. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at Main Street Bridge since January 1892 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 700.00 ft above mean sea level, adjustment of 1912. Prior to Oct. 1, 1921, staff gage at Main Street Bridge at datum 23.73 ft higher. Oct. 1, 1921, to July 24, 1931, staff gage at Main Street Bridge at datum 21.00 ft higher.

Average discharge.--31 years (1929-60), 2,092 cfs.

Extremes.--1905-6, 1913-60: Maximum discharge, 60,900 cfs Jan. 22, 1959 (gage height, 35.45 ft, from graph based on gage readings); minimum, 78 cfs Sept. 26, 1941 (gage height, 20.19 ft).

Maximum stage known, 29.0 ft Mar. 26, 1913, site and datum then in use (discharge, 250,000 cfs, computed by Miami Conservancy District).

Remarks.--Flood flow regulated by four retarding basins above station beginning in 1920. Water is diverted above station for use in Dayton; most of return flow from diversions bypasses station in Dayton sewer system. Records of suspended sediment loads for the period October 1951 to September 1953 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,897	3,592	6,306	6,738	8,069	5,359	3,889	2,387	1,543	883	378	338	3,422
1952	312	644	3,804	8,918	5,346	5,815	5,124	1,993	927	486	453	437	2,853
1953	318	399	953	2,440	1,711	2,816	1,129	4,800	1,192	488	497	196	1,417
1954	194	232	282	437	448	1,233	2,058	685	1,061	216	607	167	634
1955	528	397	777	1,910	4,134	5,633	1,776	700	525	878	256	255	1,467
1956	856	3,658	947	609	6,339	4,131	3,671	2,203	1,996	1,095	481	319	2,167
1957	289	396	608	1,334	1,921	1,417	9,169	3,799	4,099	4,211	548	481	2,347
1958	430	1,137	5,626	2,300	1,654	2,014	2,871	3,776	12,150	4,694	3,880	1,385	3,499
1959	805	1,216	1,130	9,053	7,946	4,177	3,017	2,553	892	595	492	394	2,660
1960	413	681	1,464	2,553	3,096	1,471	1,380	1,082	1,155	603	312	205	1,195

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	4,344	-
1951	1205	34,800	Feb. 22, 1951	280	3,422	-	-	2,833	-
1952	1235	46,600	Jan. 27, 1952	257	2,853	-	-	2,592	-
1953	1275	18,100	May 23, 1953	171	1,417	-	-	1,336	-
1954	1335	11,000	Mar. 30, 1954	121	634	-	-	718	-
1955	1385	17,200	Feb. 22, Mar. 22	121	1,467	-	-	1,777	-
1956	1435	23,000	Nov. 17, 1955	268	2,167	-	-	1,823	-
1957	1505	33,200	Apr. 5, 1957	251	2,347	-	-	2,846	-
1958	1555	40,800	June 14, 1958	321	3,499	-	-	3,156	-
1959	1625	60,900	Jan. 22, 1959	300	2,660	-	-	2,611	-
1960	1705	12,700	Feb. 11, 1960	176	1,195	-	-	-	-

2715. Miami River at Miamisburg, Ohio

Location.--Lat 39°38'45", long 84°17'20", in sec.31, R.6, T.1, on left bank 600 ft downstream from bridge on State Highway 725 at Miamisburg, Montgomery County, and 0.3 mile downstream from Bear Creek.

Drainage area.--2,718 sq mi.

Records available.--March 1916 to September 1920 (published as "at Franklin" 1916-17), August 1924 to September 1935 (published as "near Miamisburg"), October 1952 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 678.60 ft above mean sea level, adjustment of 1912. Mar. 16, 1916, to Sept. 30, 1920, staff gage at site 6.7 miles downstream at different datum. Aug. 29 to Sept. 16, 1924, staff gage and Sept. 17, 1924, to Sept. 30, 1935, water-stage recorder, at site 2.2 miles downstream at datum 677.06 ft above mean sea level.

Average discharge.--23 years (1916-20, 1924-35, 1952-60), 2,329 cfs.

Extremes.--1916-20, 1924-35, 1952-60: Maximum discharge, 61,800 cfs Jan. 21, 22, 1959 (gage height, 20.65 ft, from graph based on gage readings); minimum daily, 148 cfs Sept. 7, 1925.

Maximum discharge known, 257,000 cfs Mar. 26, 1913, computed by Miami Conservancy District.

Remarks.--Diurnal fluctuation caused by powerplant above station. Flood flow regulated by four retarding basins above station beginning in 1920.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	460	484	1,006	2,623	1,947	3,044	1,322	5,041	1,390	656	642	307	1,581
1954	289	316	370	594	589	1,320	2,415	816	1,235	324	715	253	768
1955	642	456	848	2,172	4,547	5,962	1,952	877	722	1,077	393	417	1,665
1956	1,024	4,215	1,172	786	7,004	4,581	4,101	2,315	2,190	1,245	660	450	2,451
1957	421	489	725	1,485	2,173	1,683	9,975	4,258	4,240	4,480	686	614	2,592
1958	541	1,251	6,079	2,683	1,832	2,327	3,358	4,297	15,320	5,488	4,397	1,579	3,935
1959	986	1,413	1,316	10,090	8,664	4,907	3,459	3,049	1,180	785	723	542	3,063
1960	556	824	1,666	2,845	3,577	1,765	1,646	1,252	1,304	815	440	308	1,409

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	0.19	0.20	0.43	1.11	0.75	1.29	0.54	2.13	0.57	0.28	0.27	0.13	7.89
1954	.12	.13	.16	.25	.23	.56	.99	.35	.51	.14	.30	.10	3.84
1955	.27	.19	.36	.92	1.78	2.52	.80	.37	.30	.46	.17	.17	8.31
1956	.43	1.73	.50	.33	2.78	1.95	1.68	.98	.90	.53	.28	.19	12.28
1957	.18	.20	.31	.63	.83	.71	4.10	1.81	1.74	1.90	.29	.25	12.95
1958	.23	.51	2.58	1.14	.70	.99	1.37	1.82	5.47	2.33	1.87	.65	19.66
1959	.42	.56	.56	4.28	3.32	2.09	1.42	1.29	.48	.33	.31	.22	15.30
1960	.24	.34	.71	1.21	1.42	.75	.68	.53	.54	.35	.19	.13	7.09

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	1335	19,100	May 23, 1953	238	1,581	0.582	7.89	1,499	7.48
1954	1355	10,500	Mar. 31, 1954	164	768	.283	3.84	850	4.25
1955	1385	19,000	Feb. 22, 1955	205	1,665	.613	8.31	2,033	10.15
1956	1435	24,700	Nov. 17, 1955	373	2,451	.902	12.28	2,057	10.31
1957	1505	37,700	Apr. 5, 1957	367	2,592	.954	12.95	3,120	15.58
1958	1555	44,200	June 15, 1958	388	3,935	1.45	19.66	3,582	17.90
1959	1625	61,800	Jan. 21, 22, 1959	407	3,063	1.13	15.30	3,008	15.03
1960	1705	13,000	Feb. 11, 1960	234	1,409	.518	7.09	-	-

2720. Twin Creek near Germantown, Ohio

Location.--Lat 39°38'10", long 84°23'48", in NW¹ sec.11, T.3 N., R.4 E., on right bank a quarter of a mile downstream from Germantown Dam, 1¹/₂ miles northwest of Germantown, Montgomery County, and 3 miles upstream from Little Twin Creek.

Drainage area.--275 sq mi.

Records available.--April 1914 to December 1923, December 1926 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 700.24 ft above mean sea level, adjustment of 1912. Prior to Dec. 18, 1926, staff gage at site 1 mile downstream at datum 12.49 ft higher.

Average discharge.--42 years (1914-23, 1927-60), 265 cfs.

Extremes.--1914-23, 1926-60: Maximum discharge, 9,390 cfs July 8, 1915 (gage height, 11.7 ft, from graph based on gage readings, site and datum then in use); maximum gage height, 29.19 ft Jan. 22, 1959; minimum discharge, 1.5 cfs Sept. 25, 1941 (gage height, 18.25 ft).

Maximum stage known, 18.3 ft Mar. 25, 1913, original site and datum (discharge, 66,000 cfs, computed by Miami Conservancy District).

Remarks.--Flood flow regulated by Germantown retarding basin beginning in 1920.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	519	622	698	910	1,002	568	505	190	333	131	19.1	13.5	439
1952	12.4	71.1	691	1,358	583	750	600	121	117	45.6	19.0	11.4	364
1953	8.46	11.8	45.3	259	205	337	150	371	72.0	20.1	7.25	3.79	124
1954	4.84	7.87	10.5	21.8	26.9	54.7	223	55.3	80.7	16.8	15.2	5.39	43.3
1955	7.90	10.4	48.0	155	628	583	204	58.6	58.5	200	28.1	69.0	168
1956	153	727	148	83.0	878	455	474	144	94.5	47.8	14.9	8.77	265
1957	8.32	13.3	46.4	139	310	152	1,080	691	468	142	20.0	14.9	255
1958	17.9	84.9	626	246	139	207	390	620	1,237	621	636	62.1	409
1959	46.1	80.0	106	1,247	967	470	261	296	92.5	29.2	59.2	19.3	303
1960	19.5	40.2	115	201	413	176	132	70.2	75.1	30.8	12.7	6.51	106

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.34	2.52	2.92	3.82	3.79	2.38	2.05	0.80	1.35	0.55	0.08	0.05	21.65
1952	.05	.29	2.89	5.62	2.29	3.15	2.43	.51	.47	.19	.08	.05	18.02
1953	.04	.05	.19	1.09	.78	1.42	.61	1.56	.29	.08	.03	.02	8.16
1954	.02	.03	.04	.09	.10	.23	.90	.23	.33	.07	.06	.02	2.12
1955	.03	.04	.20	.65	2.37	2.44	.83	.25	.24	.84	.12	.28	8.29
1956	.64	2.94	.62	.35	3.44	1.90	1.92	.60	.38	.20	.06	.04	13.09
1957	.03	.05	.19	.58	1.18	.64	4.38	2.89	1.90	.59	.08	.06	12.57
1958	.07	.34	2.63	1.03	.53	.87	1.58	2.59	5.02	2.61	2.68	.25	20.18
1959	.19	.52	.44	5.22	3.68	1.97	1.06	1.24	.37	.12	.25	.08	14.92
1960	.08	.16	.48	.84	1.62	.74	.54	.29	.30	.13	.05	.03	5.26

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	573	28.26
1951	1205	6,690	Feb. 21, 1951	11	439	1.60	21.65	367	18.10
1952	1235	8,790	Jan. 27, 1952	7.8	564	1.32	18.02	304	15.07
1953	1275	2,610	Mar. 4, 1953	3.0	124	.451	6.16	121	5.97
1954	1335	1,420	Apr. 17, 1954	2.9	43.3	.157	2.12	47.0	2.30
1955	1385	3,970	Mar. 22, 1955	4.2	168	.611	8.29	248	12.22
1956	1435	7,340	Nov. 17, 1955	6.4	265	.964	13.09	186	9.16
1957	1505	7,860	Apr. 4, 1957	6.4	255	.927	12.57	311	15.34
1958	1555	7,010	June 11, 1958	8.9	409	1.49	20.18	367	18.09
1959	1625	8,590	Jan. 22, 1959	10	303	1.10	14.92	298	14.69
1960	1705	2,970	Feb. 10, 1960	4.0	106	.585	5.26	-	-

2735. Talawanda Creek near Hamilton, Ohio

Location.--Lat 39°27'30", long 84°32'50", in sec.9, T.2 N., R.3 E., on left bank 0.9 mile downstream from Sevenmile Creek, 1½ miles south of village of Sevenmile, 3 miles upstream from mouth, and 4 miles north of Hamilton, Butler County.

Drainage area.--311 sq mi.

Records available.--October 1937 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Staff gage. Datum of gage is 590.0 ft above mean sea level, adjustment of 1912. Prior to May 1, 1939, water-stage recorder at site 1,000 ft downstream at datum about 2.5 ft lower. Sept. 1, 1939, to May 18, 1948, and Oct. 1, 1956, to Apr. 12, 1957, water-stage recorder at site 1,000 ft downstream at present datum.

Average discharge.--23 years (1937-60), 301 cfs.

Extremes.--1937-60: Maximum discharge, 44,500 cfs Jan. 21, 1959 (gage height, 21.9 ft), from rating curve extended above 18,000 cfs on basis of contracted-opening measurement of peak flow; minimum, 0.2 cfs Oct. 4, 1953.

Remarks.--Occasional regulation by Acton Lake Dam, 18 miles upstream from station beginning in 1956.

Revisions.--Some periods for water year 1949 were revised in WSP 1625; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches	Momentary maximum		Minimum day
				Discharge	Date	
January 1949.....	2,605	8.38	9.66	-	-	-
Water year 1948-49.....	443	1.42	19.32	33,500	Jan. 4	3.8
Calendar year 1949.....	398	1.28	17.38	-	-	-

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	162	637	936	989	1,207	801	533	132	144	65.7	7.66	3.49	464
1952	2.90	26.7	337	1,270	775	949	598	152	89.7	31.9	37.7	8.53	356
1953	4.82	11.9	82.3	391	262	435	182	425	49.6	181	11.6	.79	170
1954	†.86	2.20	5.53	23.3	29.0	62.9	253	85.4	50.5	44.7	63.1	4.02	51.9
1955	9.75	6.25	67.8	203	783	619	292	103	141	352	29.4	73.2	220
1956	121	750	169	128	963	516	618	178	305	93.3	15.9	6.24	317
1957	4.60	7.60	61.1	178	381	229	1,055	977	431	101	19.4	87.5	293
1958	11.2	104	894	220	201	190	450	816	965	1,011	739	77.3	476
1959	52.8	92.0	118	1,266	1,060	509	168	269	89.2	23.8	18.1	24.7	304
1960	12.1	53.6	188	243	455	205	110	162	288	154	17.3	7.64	157

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.60	2.29	3.47	3.67	4.04	2.97	1.91	0.49	0.52	0.24	0.03	0.01	20.24
1952	.01	.10	1.24	4.70	2.68	3.52	2.14	.56	.32	.12	.14	.03	15.56
1953	.02	.04	.31	1.45	.88	1.61	.65	1.58	.18	.67	.04	.003	7.43
1954	.003	.008	.02	.09	.10	.23	.91	.32	.18	.17	.23	.01	2.27
1955	.04	.02	.25	.75	2.62	2.29	1.05	.38	.51	1.30	.11	.26	9.58

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1950	-	-	-	-	-	-	-	654
1951	1205	19,200	Nov. 20, 1950	2.4	464	1.49	20.24	349
1952	1235	26,300	Jan. 26, 1952	1.4	356	1.14	15.56	334
1953	1275	6,400	Mar. 4, 1953	.4	170	.547	7.43	162
1954	1335	4,240	July 21, 1954	.3	51.9	.167	2.27	58.3
1955	1385	8,800	July 17, 1955	1.0	220	.707	9.58	299
1956	1435	16,600	Nov. 16, 1955	3.6	317	-	-	238
1957	1505	16,100	May 22, 1957	3.7	293	-	-	372
1958	1555	13,300	June 13, 1958	8.4	476	-	-	413
1959	1625	44,500	Jan. 21, 1959	7.3	304	-	-	303
1960	1705	12,000	June 30, 1960	6.0	157	-	-	-

Note.--Figures of discharge in cubic feet per second per square mile and runoff in inches since 1956, published in some water-supply papers, have been found in error because of regulation by Acton Lake; those figures are not published herein and should not be used.

2740. Miami River at Hamilton, Ohio

Location.--Lat 39°23'28", long 84°34'20", in NE¹ sec.6, T.1 N., R.3 E., on right bank 1,000 ft downstream from Columbia Bridge at Hamilton, Butler County, and 3 miles downstream from Talawanda Creek.

Drainage area.--3,639 sq mi.

Records available.--January 1907 to June 1909 (fragmentary), January 1910 to September 1918, April 1927 to September 1960. Gage-height records collected at site 0.7 mile upstream since 1911 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 499.98 ft above mean sea level, adjustment of 1912. Prior to Apr. 12, 1927, staff gages at site 0.7 mile upstream at datum 64.65 ft higher.

Average discharge.--29 years (1931-60), 3,214 cfs.

Extremes.--1910-18, 1927-60: Maximum discharge, 352,000 cfs Mar. 26, 1913 (gage height, 38.5 ft, site and datum then in use), computed by Miami Conservancy District; minimum, 100 cfs Sept. 26, 27, 1941; minimum gage height observed, 55.76 ft Sept. 19, 1960.

Remarks.--Low flow regulated by powerplant at Hamilton. Flood flow regulated by five retarding basins above station beginning in 1920. Small diversion above gage for municipal supply of Hamilton. Records of chemical analyses and water temperatures for the period October 1950 to September 1951 and water temperatures for the period October 1957 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,785	5,316	8,585	9,691	11,710	7,612	5,927	3,182	2,369	1,454	641	579	4,948
1952	528	920	5,986	13,800	8,166	8,680	7,313	2,968	1,698	883	754	723	4,366
1953	549	570	1,159	3,780	2,698	4,019	1,852	5,568	1,791	923	710	368	2,004
1954	331	353	394	614	679	1,333	3,158	1,114	1,452	535	893	550	931
1955	731	505	1,016	2,682	6,418	8,179	2,948	1,115	974	1,691	490	627	2,259
1956	1,518	5,660	1,705	1,082	9,077	5,878	5,830	2,832	2,947	1,654	730	507	3,248
1957	463	576	978	2,081	3,355	2,356	13,360	6,473	5,063	5,189	831	798	3,445
1958	653	1,547	7,860	3,331	2,091	3,003	4,537	6,047	14,860	7,995	6,353	1,997	5,039
1959	1,212	1,671	1,715	13,520	11,350	6,501	3,950	5,861	1,645	917	883	623	3,934
1960	612	946	2,108	3,585	4,874	2,259	2,080	1,579	1,976	1,303	532	377	1,842

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.88	1.63	2.72	3.07	3.35	2.41	1.82	1.01	0.73	0.46	0.20	0.18	18.46
1952	.17	.28	1.89	4.37	2.42	2.76	2.24	.94	.52	.28	.24	.22	16.33
1953	.17	.18	.37	1.20	.77	1.27	.57	1.76	.55	.29	.22	.11	7.46
1954	.10	.11	.12	.19	.19	.42	.97	.35	.45	.17	.28	.11	3.46
1955	.23	.16	.32	.85	1.63	2.59	.90	.35	.30	.54	.16	.19	8.42
1956	.48	1.74	.54	.34	2.68	1.87	1.78	.90	.90	.52	.23	.16	12.14
1957	.15	.18	.31	.66	.96	.75	4.10	2.05	1.55	1.65	.26	.24	12.86
1958	.21	.47	2.49	1.05	.60	.95	1.40	1.91	4.55	2.54	2.02	.61	18.80
1959	.38	.51	.54	4.29	3.25	1.99	1.22	1.23	.50	.29	.28	.19	14.67
1960	.19	.29	.67	1.14	1.44	.72	.64	.50	.61	.41	.17	.12	6.90

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	6,288	23.44
1951	1205	53,400	Feb. 21, 1951	433	4,948	1.36	18.46	4,175	15.57
1952	1235	17,600	Jan. 27, 1952	400	4,566	1.20	16.33	3,930	14.71
1953	1275	17,300	May 23, 1953	268	2,004	.551	7.46	1,903	7.07
1954	1355	9,100	Mar. 31, 1954	245	931	.256	3.46	1,031	3.84
1955	1385	25,800	Mar. 22, 1955	259	2,259	.621	8.42	2,808	10.47
1956	1435	31,900	Nov. 16, 1955	376	3,248	.893	12.14	2,681	10.02
1957	1505	49,600	Apr. 4, 1957	371	3,445	.947	12.86	4,126	15.39
1958	1555	46,600	June 15, 1958	511	5,039	1.38	18.80	4,575	17.06
1959	1625	108,000	Jan. 21, 1959	438	3,934	1.08	14.67	3,857	14.39
1960	1705	18,500	Feb. 10, 1960	292	1,842	.506	6.90	-	-

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 1960. 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.--32 years (1928-60), 538 cfs.

Extremes.--1928-60: Maximum discharge, 35,000 cfs Jan. 14, 1937 (gage height, 16.61 ft); minimum, 14 cfs Sept. 22, 1931; minimum daily, 26 cfs Aug. 13, 1944.

Flood in March 1913 reached a stage of about 18.5 ft at site 2,700 ft upstream from floodmarks indicated by local resident.

Remarks.--Some regulation at low flow by powerplant above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	286	1,144	1,355	1,451	2,127	1,498	1,341	512	444	356	132	104	887
1952	94.3	235	1,350	2,180	1,310	1,238	968	395	272	137	101	99.8	696
1953	85.7	104	233	498	424	826	367	1,077	254	339	106	70.1	367
1954	67.8	74.8	78.7	138	127	282	706	227	175	109	96.3	59.4	178
1955	83.4	96.7	218	560	680	945	524	267	224	218	80.5	145	335
1956	313	1,594	338	218	1,645	810	877	538	347	274	115	78.2	572
1957	76.9	88.9	131	233	390	233	1,534	903	1,277	471	158	147	468
1958	122	264	1,442	674	348	398	577	1,086	2,314	1,320	1,429	370	866
1959	271	446	358	2,004	1,869	1,048	800	777	302	165	118	106	683
1960	123	179	263	473	881	407	362	360	364	215	112	86.4	318

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.61	2.37	2.90	3.10	4.11	3.20	2.77	1.09	0.92	0.76	0.28	0.22	22.33
1952	.20	.49	2.84	4.66	2.62	2.65	2.00	.84	.56	.29	.22	.21	17.58
1953	.18	.22	.50	1.07	.82	1.76	.76	2.31	.53	.73	.23	.14	9.25
1954	.15	.16	.17	.30	.25	.60	1.46	.49	.36	.23	.21	.12	4.50
1955	.18	.20	.47	1.20	1.31	2.02	1.08	.57	.46	.47	.17	.30	8.43
1956	.67	2.89	.72	.47	3.29	1.73	1.82	1.15	.72	.59	.25	.16	14.46
1957	.16	.18	.28	.50	.75	1.50	3.18	1.94	2.64	1.01	.34	.30	11.78
1958	.26	.55	3.09	1.44	.67	.85	1.19	2.32	4.79	2.82	3.06	.77	21.81
1959	.58	.92	.79	4.29	3.61	2.24	1.65	1.66	.62	.35	.25	.22	17.18
1960	.26	.37	.56	1.01	1.76	.87	.75	.81	.75	.46	.24	.18	8.02

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,155	29.39
1951	1205	21,800	Feb. 21, 1951	74	887	1.65	22.33	794	19.98
1952	1235	28,500	Jan. 27, 1952	70	696	1.29	17.58	592	14.96
1953	1275	5,820	Mar. 4, 1953	61	367	.681	9.25	350	8.83
1954	1335	3,770	Mar. 30, 1954	46	178	.330	4.50	193	4.87
1955	1385	4,560	Jan. 6, 1955	42	335	.622	8.43	471	11.86
1956	1435	17,600	Feb. 26, 1956	68	572	1.06	14.46	428	10.80
1957	1505	15,900	June 29, 1957	68	468	.868	11.78	597	15.06
1958	1555	18,900	June 14, 1958	93	866	1.61	21.81	802	20.20
1959	1625	31,600	Jan. 21, 1959	75	683	1.27	17.18	639	16.08
1960	1705	6,380	Feb. 10, 1960	81	318	.590	8.02	-	-

2755. East Fork Whitewater River at Richmond, Ind.

Location.--Lat 39°48'24", long 84°54'26", in SE¹/₄ 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 1960.

Gage.--Water-stage recorder. 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.--11 years (1949-60), 125 cfs.

Extremes.--1949-60: 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, 0.55 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.--Some regulation at low flow by powerplant above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	80	285	303	347	456	290	262	101	129	62.1	20.5	18.0	194
1952	14.9	75.6	382	461	273	273	208	70.1	56.5	25.0	19.8	15.6	156
1953	12.9	19.3	52.4	108	77.3	167	77.7	273	71.3	27.2	12.4	9.24	76.0
1954	8.77	11.3	15.5	32.3	24.7	54.8	133	51.7	29.8	10.9	25.6	5.41	31.9
1955	19.0	19.0	49.0	94.2	217	207	115	45.8	44.2	38.8	9.35	27.6	75.0
1956	48.9	294	53.1	35.3	373	155	202	91.8	52.3	32.5	10.8	7.28	111
1957	8.13	13.6	26.5	55.0	86.1	55.3	358	188	328	78.8	22.2	28.3	103
1958	26.0	59.5	357	126	61.4	84.8	134	254	644	350	323	59.1	208
1959	49.4	87.9	69.8	507	411	199	159	105	48.8	23.5	16.0	14.8	139
1960	25.1	40.3	58.7	107	183	77.1	64.7	83.7	60.5	24.6	15.7	9.74	62.0

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.75	2.59	2.84	3.25	3.86	2.72	2.38	0.95	1.17	0.58	0.19	0.16	21.44
1952	.14	.69	3.59	4.32	2.39	2.56	1.89	.66	.51	.23	.19	.14	17.31
1953	.12	.18	.49	1.01	.65	1.57	.71	2.56	.65	.25	.12	.08	8.39
1954	.08	.10	.15	.30	.21	.51	1.20	.30	.27	.10	.24	.05	3.51
1955	.18	.17	.46	.88	1.83	1.94	1.04	.43	.40	.36	.09	.25	8.03
1956	.46	2.67	.50	.33	3.27	1.45	1.83	.86	.47	.30	.10	.07	12.31
1957	.08	.12	.25	.52	.73	.52	3.25	1.76	2.98	.74	.21	.26	11.42
1958	.24	.54	3.34	1.18	.52	.79	1.22	2.39	5.85	3.29	3.03	.54	22.93
1959	.46	.80	.65	4.75	3.48	1.87	1.44	.98	.44	.22	.15	.13	15.37
1960	.24	.37	.55	1.00	1.61	.72	.59	.78	.55	.23	.15	.09	6.88

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	260	28.68
1951	1205, 1235	9,250	Nov. 20, 1950	11	194	1.58	21.44	178	19.68
1952	1235	9,250	Jan. 26, 1952	6.8	156	1.27	17.31	125	13.68
1953	1275	3,160	May 22, 1953	4.1	76.0	.618	8.39	71.9	7.93
1954	1335	1,160	Mar. 30, 1954	1.2	31.9	.259	3.51	36.3	3.99
1955	1385	2,540	Feb. 21, 1955	1.4	73.0	.593	8.03	98.5	10.85
1956	1435	8,200	Nov. 16, 1955	2.9	111	.902	12.31	82.6	9.13
1957	1505	7,800	June 28, 1957	5.1	103	.837	11.42	137	15.09
1958	1555	10,400	Aug. 2, 1958	15	208	1.69	22.93	187	20.72
1959	1625	14,100	Jan. 21, 1959	6.1	139	1.15	15.37	132	14.62
1960	1705	2,100	Feb. 10, 1960	3.2	62.0	.504	6.88	-	-

2760. East Fork Whitewater River at Brookville, Ind.

Location.--Lat 39°26'00", long 85°00'11", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ 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 to September 1960.

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 65 ft upstream at same datum.

Average discharge.--6 years (1954-60), 388 cfs.

Extremes.--1954-60: Maximum discharge, 36,100 cfs Jan. 21, 1959 (gage height, 16.50 ft); minimum, 12 cfs Sept. 5, 1955; minimum gage height, 0.24 ft Sept. 25, Oct. 3, 1959, Sept. 8, 11, 12, 1960.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	299	129	137	65.5	62.3	26.4	-
1955	38.7	44.5	99.6	211	576	813	429	167	161	200	41.3	145	242
1956	174	974	237	149	1,242	580	794	417	300	189	55.9	58.7	420
1957	38.0	540	184	218	595	232	1,260	793	660	247	78.9	175.8	347
1958	70.4	210	1,083	429	222	308	495	1,023	1,507	1,073	923	175	630
1959	122	195	210	1,570	1,530	731	489	505	214	87.7	62.6	63.3	476
1960	65.8	100	178	293	652	249	224	261	303	204	55.3	35.1	216

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	0.87	0.39	0.40	0.20	0.19	0.08	-
1955	0.12	0.13	0.30	0.64	1.57	2.46	1.25	.50	.47	.60	.12	.42	8.58
1956	.52	2.84	.71	.45	3.38	1.75	2.32	1.26	.88	.57	.17	.11	14.96
1957	.11	.16	.40	.66	1.07	.70	3.68	2.40	1.93	.75	.24	.22	12.32
1958	.21	.61	3.27	1.29	.60	.93	1.45	3.09	4.41	3.24	2.79	.51	22.40
1959	.37	.57	.63	4.74	4.18	2.20	1.43	1.52	.62	.27	.19	.19	16.91
1960	.20	.29	.54	.88	1.84	.75	.65	.79	.88	.62	.17	.10	7.71

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	1335, 1555	-	-	-	-	-	-	-	-
1955	1385, 1555	5,140	Sept. 29, 1955	18	242	0.634	8.58	341	12.10
1956	1435	14,100	Nov. 16, 1955	35	420	1.10	14.96	325	11.56
1957	1505	10,800	May 22, 1957	30	347	.908	12.32	443	15.74
1958	1555	12,000	July 20, Aug. 2	44	630	1.65	22.40	559	19.88
1959	1625	36,100	Jan. 21, 1959	31	476	1.25	16.91	460	16.37
1960	1705	5,170	June 23, 1960	25	216	.565	7.71	-	-

2765. Whitewater River at Brookville, Ind.

Location.--Lat 39°24'24", long 85°00'45", in NW¹ sec.32, T.9 N., R.2 W., on right bank at downstream side of highway bridge, 0.3 mile (revised) downstream from East Fork and 1.1 miles (revised) 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 1960. 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.--39 years (1915-17, 1923-60), 1,275 cfs.

Extremes.--1915-20, 1923-60: Maximum discharge, 81,800 cfs Jan. 21, 1959 (gage height, 27.78 ft), from rating curve extended above 60,000 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 (present datum) Mar. 25, 1913, from floodmarks (discharge not determined).

Remarks.--Some regulation at low flow caused by powerplant above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	850	2,614	3,070	3,589	4,569	3,158	2,926	969	959	680	234	166	1,947
1952	158	428	2,638	5,048	2,844	2,938	2,324	1,083	581	254	208	164	1,556
1953	136	175	506	1,441	942	1,881	940	2,175	643	677	248	121	827
1954	116	123	149	289	284	561	1,295	519	375	235	194	113	354
1955	148	175	386	1,015	2,297	2,736	1,370	676	540	591	178	547	879
1956	725	3,238	816	545	3,847	1,898	2,568	1,540	973	657	209	145	1,410
1957	126	164	427	685	1,193	1,722	4,234	2,648	2,308	1,064	284	250	1,169
1958	208	657	3,502	1,251	715	1,007	1,660	3,245	4,710	3,390	2,920	735	2,011
1959	492	848	809	4,787	4,211	2,300	1,590	1,476	667	314	236	261	1,484
1960	234	343	660	1,096	1,982	887	787	903	1,548	867	278	138	805

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.60	2.35	2.86	3.34	3.84	2.94	2.64	0.90	0.86	0.63	0.22	0.15	21.33
1952	.15	.39	2.45	4.70	2.48	2.73	2.09	1.01	.52	.24	.19	.15	17.10
1953	.13	.16	.47	1.34	.79	1.75	.85	2.05	.58	.63	.23	.11	9.07
1954	.11	.11	.14	.27	.24	.52	1.17	.48	.34	.22	.18	.10	3.88
1955	.14	.16	.36	.94	1.93	2.55	1.24	.63	.49	.55	.17	.49	9.65
1956	.67	2.91	.76	.51	3.34	1.76	2.31	1.43	.88	.61	.19	.13	15.50
1957	.12	.15	.40	.64	1.00	.67	3.82	2.47	2.03	.99	.26	.23	12.83
1958	.19	.59	3.26	1.16	.60	.94	1.50	3.02	4.24	3.16	2.72	.66	22.04
1959	.46	.76	.75	4.45	3.54	2.14	1.43	1.37	.60	.29	.22	.24	16.25
1960	.22	.31	.61	1.02	1.73	.83	.71	.84	1.40	.81	.26	.12	8.86

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2,735	29.96
1951	1205	33,600	Feb. 21, 1951	140	1,947	1.57	21.33	1,689	18.51
1952	1235	61,200	Jan. 27, 1952	130	1,556	1.26	17.10	1,353	14.87
1953	1275	13,500	July 6, 1953	106	827	.667	9.07	790	8.67
1954	1335	4,660	June 16, 1954	92	354	.286	3.88	381	4.18
1955	1385	12,100	Feb. 27, 1955	90	879	.709	9.65	1,220	13.33
1956	1436	35,000	Nov. 16, 1955	131	1,410	1.14	15.50	1,078	11.83
1957	1505	35,300	Apr. 4, 1957	116	1,169	.944	12.83	1,477	16.20
1958	1555	28,600	June 14, 1958	160	2,011	1.62	22.04	1,822	19.97
1959	1625	81,800	Jan. 21, 1959	156	1,484	1.20	16.25	1,408	15.42
1960	1705	20,400	June 23, 1960	118	805	.650	8.86	-	-

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 $3\frac{1}{2}$ miles downstream from Bear Creek.

Drainage area.--248 sq mi.

Records available.--October 1940 to September 1960.

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

Average discharge.--20 years (1940-60), 278 cfs.

Extremes.--1940-60: 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.--Some regulation at low flow by mill above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	78.7	659	698	1,017	1,035	716	537	118	51.7	22.1	0.629	0.050	407
1952	.174	49.1	567	956	671	670	345	115	122	30.5	45.7	25.5	300
1953	1.16	7.54	114	663	133	441	336	414	75.4	183	12.8	0	200
1954	0	.01	.20	38.1	25.7	95.1	91.6	82.3	26.4	0	20.1	.26	31.7
1955	10.0	7.23	111	307	1,170	978	205	189	133	198	12.7	35.1	274
1956	193	532	94.6	206	1,103	556	458	612	202	91.6	10.2	58.5	338
1957	17.0	4.81	141	290	397	227	990	511	202	372	7.11	8.04	262
1958	3.31	256	950	253	127	167	344	710	402	738	357	74.6	368
1959	19.1	78.1	146	1,377	668	493	159	131	165	25.7	7.82	9.16	272
1960	7.63	54.1	218	381	525	238	123	224	678	245	21.4	6.63	225

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.37	2.97	3.24	4.73	4.35	3.33	2.42	0.55	0.23	0.10	0.003	0.0002	22.29
1952	.008	.22	2.64	4.44	2.92	3.12	1.55	.54	.55	.14	.21	.11	16.44
1953	.005	.03	.53	3.08	.56	2.05	1.51	1.93	.34	.85	.06	0	10.94
1954	0	.00004	.0009	.18	.11	.44	.41	.38	.12	0	.09	.001	1.73
1955	.05	.03	.52	1.43	4.91	4.54	.92	.88	.60	.92	.06	.16	15.02
1956	.90	2.40	.44	.96	4.80	2.49	2.06	2.85	.91	.43	.05	.26	18.55
1957	.08	.02	.66	1.35	1.67	1.05	4.45	2.38	.91	1.73	.03	.04	14.37
1958	.02	1.15	4.42	1.18	.53	.78	1.55	3.30	1.81	3.44	1.66	.34	20.18
1959	.09	.35	.68	6.40	2.80	2.29	.72	.61	.74	.12	.04	.04	14.88
1960	.04	.24	1.01	1.78	2.29	1.11	.55	1.04	3.05	1.14	.10	.03	12.38

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	592	32.41
1951	1205	9,660	Nov. 20, 1951	0	407	1.64	22.29	339	18.57
1952	1235	9,660	Mar. 10, 1952	0	300	1.21	16.44	258	14.14
1953	1275	3,960	May 17, 1953	0	200	.806	10.94	190	10.38
1954	1335	640	May 3, 1954	0	31.7	.128	1.73	42.6	2.33
1955	1385	10,800	Mar. 21, 1955	0	274	1.10	15.02	332	16.16
1956	1435	12,500	May 28, 1956	.6	338	1.36	18.55	283	15.57
1957	1505	20,200	July 5, 1957	0	262	1.06	14.37	351	19.20
1958	1555	17,000	July 22, 1958	.2	368	1.48	20.18	287	15.71
1959	1625	47,800	Jan. 21, 1959	.3	272	1.10	14.88	275	15.05
1960	1705	29,000	June 23, 1960	.1	225	.907	12.38	-	-

2775. North Fork Kentucky River at Hazard, Ky.

Location.--Lat 37°14'45", long 83°11'00", near right bank on downstream side of Woodland Park bridge on eastern limits of Hazard, Perry County, 150 ft upstream from city waterworks dam and 4.0 miles upstream from Lotts Creek.

Drainage area.--466 sq mi (revised).

Records available.--January 1940 to September 1960. Gage-height records collected in the vicinity since 1925 are contained in reports of U.S. Weather Bureau.

Gage.--Wire-weight gage and crest-stage gage since Jan. 17, 1951. Datum of gage is 839.76 ft above mean sea level, datum of 1929.

Average discharge.--20 years (1940-60), 526 cfs.

Extremes.--1940-60: Maximum discharge, 47,800 cfs Jan. 29, 1957 (gage height, 37.54 ft, from floodmark), from rating curve extended above 20,000 cfs; minimum not determined; minimum gage height observed, 3.20 ft June 28, 1954.

Flood of May 30, 1927, reached a stage of about 34 ft, revised (from information by local resident, U.S. Weather Bureau gage readings, and relation of 1927 and 1939 floods). Flood of Feb. 3, 1939, reached a stage of 29.95 ft, from floodmark.

Remarks.--Small diversion by city of Hazard waterworks and electric plant above station. Records of water temperatures for the period October 1949 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	59.5	322	925	873	2,277	1,195	973	793	291	116	41.4	149	657
1952	24.0	873	1,653	1,741	748	1,581	770	591	351	32.1	69.1	22.3	707
1953	10.0	139	386	936	851	867	464	1,519	114	75.8	27.3	8.7	448
1954	3.5	12.5	41.0	714	65.9	769	400	357	156	252	35.5	34.0	239
1955	24.0	73.1	504	393	1,901	3,444	542	156	54.0	51.3	32.6	5.9	592
1956	11.8	23.1	35.6	134	2,379	2,202	1,850	398	284	224	159	88.8	640
1957	29.2	64.1	866	2,427	2,046	701	1,010	145	114	30.7	10.8	65.3	901
1958	44.5	211	731	359	1,082	848	1,921	2,071	225	710	613	51.0	736
1959	31.4	83.4	215	868	637	402	1,181	264	403	64.2	42.8	42.3	350
1960	144	748	1,000	822	1,129	1,160	458	178	214	553	101	172	555

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.15	0.77	2.29	2.16	5.09	2.96	2.33	1.96	0.70	0.29	0.10	0.36	19.16
1952	.06	2.09	4.09	4.31	1.73	3.91	1.84	1.46	.84	.08	.17	.05	20.63
1953	.02	.33	.95	2.31	1.86	2.14	1.11	3.76	.27	.18	.07	.02	13.02
1954	.009	.03	.10	1.77	.15	1.90	.96	.88	.37	.62	.09	.08	6.96
1955	.06	.18	1.25	.97	4.25	8.52	1.30	.38	.13	.13	.08	.01	17.26
1956	.03	.06	.09	.33	5.51	5.45	4.43	.98	.68	.56	.39	.21	18.72
1957	.07	.15	1.65	6.01	4.57	1.73	2.42	.56	.27	.08	.03	.16	17.50
1958	.11	.51	1.81	.89	2.37	2.10	4.60	5.12	.54	1.76	1.52	.12	21.45
1959	.08	.20	.53	2.15	1.42	.99	2.83	.65	.97	.16	.11	.10	10.19
1960	.36	1.79	2.47	2.03	2.61	2.87	1.10	.44	.51	1.37	.25	.41	16.21

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	-	743	21.63
1951	(a)	28,100	Feb. 1, 1951	4	657	1.41	19.16	761	22.19		
1952	1235,1385	13,800	Mar. 23, 1952	1	707	1.52	20.63	538	15.69		
1953	1275,1385	24,300	May 19, 1953	2	448	.961	13.02	407	11.86		
1954	1335,1385	9,440	Jan. 16, 1954	1	239	.513	6.96	285	8.31		
1955	1385	20,000	Mar. 6, 1955	-	592	1.27	17.26	547	15.95		
1956	1435	24,400	Feb. 18, 1956	4	640	1.37	18.72	699	20.41		
1957	1505	47,800	Jan. 29, 1957	1.8	601	1.29	17.50	619	18.06		
1958	1555	19,700	May 7, 1958	14	736	1.58	21.45	681	19.83		
1959	1625	18,000	Jan. 22, 1959	7.0	350	.751	10.19	480	14.00		
1960	1705	13,000	Nov. 28, 1959	28	555	1.19	16.21	-	-		

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2780. Bear Branch near Noble, Ky.

Location.--Lat 37°27'02", long 83°11'43", on right bank 800 ft upstream from mouth, a quarter of a mile west of Noble, Breathitt County, and 3½ miles north of Stacy.

Drainage area.--2.21 sq mi.

Records available.--December 1954 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 807.81 ft above mean sea level, datum of 1929.

Average discharge.--5 years (1955-60), 2.98 cfs.

Extremes.--1955-60: Maximum discharge, 375 cfs Jan. 29, 1957 (gage height, 3.20 ft, from floodmark), from rating curve extended above 120 cfs; no flow for many days each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	#2.74	2.16	11.7	14.3	1.74	0.825	0.384	0.050	0.018	0.003	-
1956	0.011	0.058	.115	.381	10.4	10.4	9.38	1.43	1.01	.600	.089	.028	2.79
1957	.082	.160	5.24	13.2	10.1	4.40	5.49	1.182	.145	.077	0	.185	3.23
1958	.027	.600	3.04	2.30	7.31	5.04	12.9	9.14	.162	1.02	1.21	.182	3.55
1959	.121	.595	.629	3.89	5.84	2.16	9.12	.855	.283	.005	.005	.007	1.77
1960	.073	1.33	1.07	3.17	10.7	7.95	3.00	2.03	2.26	7.93	2.92	.467	3.56

* Not previously published.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	#1.43	1.13	5.50	7.47	0.88	0.43	0.19	0.03	0.009	0.002	-
1956	0.006	0.03	.06	.20	5.08	5.45	4.74	.75	.51	.31	.05	.01	17.20
1957	.04	.08	2.73	6.87	4.76	2.30	2.77	.10	.07	.04	0	.08	19.84
1958	.01	.30	1.59	1.20	3.44	2.63	6.51	4.77	.08	.53	.63	.08	21.77
1959	.06	.30	.33	2.03	1.81	1.13	4.60	.45	.14	.003	.003	.003	10.86
1960	.04	.67	.56	1.66	5.23	4.15	1.51	1.06	1.14	4.14	1.52	.24	21.92

* Not previously published.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-
1955	1385	290	Mar. 16, 1955	-	-	-	-	2.56	15.74
1956	1435	328	Feb. 18, 1956	0	2.79	1.26	17.20	3.24	19.95
1957	1505	375	Jan. 29, 1957	0	3.23	1.46	19.84	3.08	18.89
1958	1555	a230	May 7, 1958	0	3.55	1.61	21.77	3.35	20.56
1959	1625	107	Apr. 12, 1959	0	1.77	.801	10.86	1.86	11.44
1960	1705	142	July 1, 1960	0	3.56	1.61	21.92	-	-

a About.

2785. Troublesome Creek at Noble, Ky.

Location.--Lat 37°26'36", long 83°13'06", on left bank adjacent to State Highway 15, 0.2 mile downstream from Buckhorn Creek, 1.5 miles west of Noble, Breathitt County, and 14 miles upstream from mouth.

Drainage area.--177 sq mi (revised).

Records available.--December 1949 to September 1960.

Gage.--Water-stage recorder and concrete contrl. Datum of gage is 768.5 ft above mean sea level, datum of 1929.

Average discharge.--10 years (1950-60), 222 cfs.

Extremes.--1949-60: Maximum discharge, 15,600 cfs Feb. 1, 1951 (gage height, 24.78 ft); no flow at times.

Maximum stage known, about 29 ft in February 1939, from information by local residents.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	36.3	294	419	401	963	454	327	161	28.0	18.2	10.7	47.5	259
1952	9.58	377	686	714	344	709	330	322	158	12.5	66.8	6.46	310
1953	2.19	37.3	173	492	315	408	235	477	21.0	19.6	3.00	1.17	182
1954	0	1.29	8.19	155	26.1	258	176	186	25.8	41.6	9.10	12.9	75.5
1955	7.77	43.0	299	213	975	1,288	226	78.5	19.0	7.15	4.55	.24	260
1956	1.38	4.17	9.85	36.9	936	912	684	150	64.6	70.5	16.5	19.2	239
1957	10.4	23.3	396	951	826	305	444	36.0	22.2	11.8	.74	19.6	249
1958	10.7	75.1	315	188	530	435	893	610	116	188	319	19.1	306
1959	15.4	40.2	62.6	353	259	187	515	93.4	62.3	8.07	1.58	3.68	130
1960	23.8	137	195	292	544	463	186	99.8	119	390	43.8	14.0	208

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.24	1.85	2.73	2.61	5.67	2.96	2.06	1.05	0.18	0.12	0.07	0.30	19.84
1952	.06	2.38	4.34	4.65	2.09	4.62	2.08	2.10	.99	.08	.44	.04	23.87
1953	.01	.24	1.13	3.21	1.85	2.66	1.48	3.11	.13	.13	.02	.007	13.98
1954	0	.008	.05	1.01	.15	1.68	1.11	1.21	.16	.27	.06	.08	5.79
1955	.05	.27	1.95	1.39	5.74	8.39	1.42	.51	.12	.05	.05	.001	19.92
1956	.009	.03	.06	.24	5.70	5.94	4.31	.98	.41	.46	.11	.12	18.37
1957	.07	.15	2.58	6.06	4.86	1.99	2.80	.23	.14	.08	.005	.12	19.08
1958	.07	.47	2.05	1.22	3.12	2.85	5.57	3.97	.73	1.23	2.08	.12	23.46
1959	.09	.25	.41	2.30	1.52	1.09	3.25	.61	.39	.05	.01	.02	9.99
1960	.16	.87	1.27	1.90	3.31	3.02	1.17	.65	.75	2.54	.29	.09	16.02

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	327	25.12
1951	1205	15,600	Feb. 1, 1951	1.5	259	1.46	19.84	284	21.80	
1952	1235	9,410	Mar. 22, 1952	.7	310	1.75	23.87	240	18.47	
1953	1275	3,270	Jan. 8, 1953	0	182	1.03	13.98	165	12.66	
1954	1335	1,750	Jan. 16, 1954	0	75.5	.427	5.79	104	8.00	
1955	1385	9,300	Feb. 27, 1955	0	260	1.47	19.92	231	17.75	
1956	1435	10,400	Mar. 14, 1956	0	239	1.35	18.37	274	21.07	
1957	1505	13,500	Jan. 29, 1957	0	249	1.41	19.08	246	18.87	
1958	1555	6,060	May 7, 1958	2.1	306	1.73	23.46	282	21.62	
1959	1625	6,920	Jan. 22, 1959	.1	130	.734	9.99	150	11.54	
1960	1705	5,550	July 1, 1960	2.3	208	1.18	16.02	-	-	

2800. North Fork Kentucky River at Jackson, Ky.

Location.--Lat 37°33'05", long 83°23'05", near center of span of upstream side of bridge on State Highways 30 and 52 at Jackson, Breathitt County, 3 miles downstream from Quicksand Creek.

Drainage area.--1,101 sq mi (revised).

Records available.--June 1928 to September 1931, December 1936 to February 1937, April 1938 to September 1960. Gage-height records collected at same site during periods 1904-7, 1913-21, and February to December 1934 (above 8.0 ft only), January 1935 to September 1960 are contained in reports of U.S. Weather Bureau.

Gage.--Wire-weight and crest-stage gages. Datum of gage is 697.67 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1941, at datum 1.00 ft higher.

Average discharge.--25 years (1928-31, 1938-60), 1,261 cfs.

Extremes.--1928-31, 1936-37, 1938-60: Maximum discharge, 53,500 cfs Jan. 30, 1957; maximum gage height, 43.10 ft Feb. 4, 1939, present datum; no flow Oct. 16, 1930. Maximum stage known, that of Feb. 4, 1939. Flood of May 30, 1927, reached a stage of 42.9 ft.

Remarks.--Diurnal fluctuation during low flow caused by city of Jackson pumping from pool formed by earthen dam downstream from gage.

Revisions.--A period for the water year 1948 was revised in WSP 1505; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches
February 1948.....	5,667	-	5.53
Water year 1948.....	1,296	1.17	15.96
Calendar year 1948.....	1,588	-	17.09

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	229	1,558	2,453	2,198	6,023	2,670	2,045	1,466	415	179	92.8	308	1,606
1952	75.5	2,031	3,963	4,675	2,513	4,635	1,676	2,279	1,142	88.4	207	55.1	1,934
1953	26.1	276	1,028	2,715	1,989	2,303	1,036	3,130	252	170	39.1	19.6	1,087
1954	5.08	16.5	99.6	1,282	264	1,634	1,108	804	278	451	112	80.8	515
1955	55.0	220	1,519	1,133	4,920	10,240	1,266	451	150	81.4	75.6	1,664	1,664
1956	26.4	35.1	71.9	256	6,290	5,346	4,722	972	596	561	305	151	1,588
1957	53.1	136	2,044	5,344	5,100	1,883	2,683	296	193	92.6	23.1	115	1,475
1958	79.1	558	1,788	961	2,576	2,423	4,886	4,225	597	1,308	1,631	146	1,762
1959	75.6	219	468	2,009	1,802	1,021	2,998	697	610	120	79.8	67.1	836
1960	236	1,117	1,778	1,898	2,896	2,737	1,188	564	581	1,703	492	294	1,285

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.24	1.58	2.57	2.30	5.70	2.80	2.07	1.54	0.42	0.19	0.10	0.31	19.82
1952	.08	2.06	4.15	4.89	2.27	4.85	1.70	2.39	1.16	.09	.22	.06	23.92
1953	.03	.28	1.08	2.84	1.88	2.41	1.11	3.28	.26	.18	.04	.02	13.41
1954	.005	.08	.10	1.94	.25	1.71	1.12	.84	.28	.47	.12	.08	6.34
1955	.06	.22	1.59	1.19	4.65	10.72	1.28	.47	.15	.09	.08	.008	20.51
1956	.03	.04	.08	.27	6.16	5.60	4.78	1.02	.60	.59	.32	.15	19.64
1957	.06	.14	2.14	5.60	4.82	1.97	2.72	.31	.20	.10	.02	.12	18.20
1958	.08	.57	1.87	1.03	2.44	2.54	4.95	4.42	.61	1.37	1.71	.15	21.74
1959	.08	.22	.47	2.10	1.70	1.07	3.04	.73	.62	.13	.08	.07	10.31
1960	.25	1.13	1.86	1.99	2.84	2.87	1.18	.59	.59	1.78	.52	.30	15.90

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2,046	25.22
1951	1205	45,400	Feb. 2, 1951	20	1,606	1.46	19.82	1,761	21.72
1952	1235	32,600	Mar. 23, 1952	20	1,934	1.76	23.92	1,537	19.02
1953	1275	16,900	May 20, 1953	6	1,087	.987	13.41	985	12.14
1954	1335, 1435	9,050	Jan. 17, 1954	-	515	.468	6.34	656	8.08
1955	1365, 1435	37,500	Feb. 28, 1955	-	1,664	1.51	20.51	1,540	18.79
1956	1435	34,900	Feb. 19, 1956	6.5	1,588	1.44	19.64	1,766	21.83
1957	1505	53,500	Jan. 30, 1957	3.5	1,475	1.34	18.20	1,490	18.58
1958	1555	32,200	May 7, 1958	25	1,762	1.60	21.74	1,620	19.99
1959	1625	18,300	Jan. 22, 1959	14	836	.759	10.31	1,037	12.78
1960	1705	11,000	Mar. 17, 1960	21	1,285	1.17	15.90	-	-

2806. Middle Fork Kentucky River near Hyden, Ky.

Location.--Lat 37°08'13", long 83°22'17", on left bank on U.S. Highway 421, 1,000 ft upstream from unnamed tributary on right bank, 2,000 ft downstream from Munsey Creek, and 1.7 miles south of Hyden, Leslie County.

Drainage area.--202 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 833.00 ft above mean sea level, datum of 1929. Prior to Dec. 23, 1957, staff gage at same site and datum.

Extremes.--1957-60: Maximum discharge, 17,600 cfs Jan. 21, 1959, June 24, 1960, from rating curve extended above 11,000 cfs; maximum gage height, 17.34 ft June 24, 1960; minimum discharge, 0.2 cfs Sept. 25-29, 1959 (gage height, 2.03 ft). Flood of Jan. 29, 1957, reached a stage of 33.3 ft (discharge, about 60,000 cfs).

Remarks.--Records not previously published.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	19.3	273	643	266	553	499	317	778	153	109	202	13.2	368
1959	10.7	47.0	99.7	576	386	297	558	220	208	9.71	9.71	6.46	201
1960	39.0	331	544	408	495	632	219	116	442	358	122	86.7	316

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0.11	1.51	3.67	1.52	2.88	2.85	5.07	4.44	0.85	0.62	1.15	0.07	24.74
1959	.06	.26	.57	3.29	1.99	1.70	3.08	1.26	1.15	.06	.06	.04	13.52
1960	.22	1.83	3.10	2.33	2.64	3.61	1.21	.66	2.44	2.04	.69	.48	21.25

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1958	-	10,400	May 6, 1958	2.2	368	1.82	24.74	303	20.34		
1959	-	17,600	Jan. 21, 1959	.2	201	.995	13.52	264	17.78		
1960	-	17,600	June 24, 1960	.8	316	1.56	21.25	-	-		

2807. Cutshin Creek at Wooton, Ky.

Location.--Lat 37°09'54", long 83°18'29", on right bank 15 ft downstream from bridge on State Highway 80, 400 ft upstream from Poundmill Branch, 600 ft upstream from Rockhouse Branch, 3,500 ft downstream from Saw Branch, and 1.0 mile southwest of Wooton, Leslie County.

Drainage area.--61.3 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 869.84 ft above mean sea level, datum of 1929. Prior to Dec. 26, 1957, staff gage at same site and datum.

Extremes.--1957-60: Maximum discharge, 4,840 cfs Jan. 21, 1959 (gage height, 9.60 ft), from rating curve extended above 2,300 cfs by logarithmic plotting; no flow Sept. 29, 1959. Flood in January 1957 reached a stage of 19.43 ft, from floodmarks.

Remarks.--Records not previously published.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	3.22	57.6	152	69.3	166	136	278	241	95.5	144	93.8	5.12	120
1959	4.20	19.4	29.4	154	105	56.7	174	47.9	69.2	2.93	2.58	2.43	55.1
1960	16.8	101	153	117	139	168	73.9	42.5	88.5	71.7	36.9	47.6	88.0

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0.06	1.05	2.85	1.30	2.82	2.55	5.07	4.54	1.74	2.72	1.76	0.09	26.55
1959	.08	.35	.55	2.90	1.78	1.07	3.17	.90	1.26	.06	.05	.04	12.21
1960	.32	1.84	2.87	2.20	2.45	3.16	1.35	.80	1.61	1.35	.73	.87	19.55

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1958	-	2,880	May 7, 1958	1.2	120	1.96	26.55	106	23.57		
1959	-	4,840	Jan. 21, 1959	0	55.1	.899	12.21	73.4	16.26		
1960	-	2,680	June 24, 1960	.9	88.0	1.44	19.55	-	-		

2809. Middle Fork Kentucky River at Buckhorn, Ky.

Location.--Lat 37°20'45", long 83°28'07", on right bank 25 ft upstream from Squabble Creek, 250 ft upstream from highway bridge on county road at Buckhorn, Perry County, about 2,000 ft downstream from flood-control dam, and at mile 42.9. Records include flow of Squabble Creek.

Drainage area.--420 sq mi, includes that of Squabble Creek.

Records available.--September 1956 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 717.52 ft above mean sea level, datum of 1929. Prior to Oct. 11, 1956, staff gages at same site and datum.

Extremes.--1956-60: Maximum discharge, 82,300 cfs Jan. 29, 1957 (gage height, 43.1 ft, from floodmark), from rating curve extended above 15,000 cfs on basis of slope-area measurement of peak flow; minimum, 1.0 cfs Aug. 26, 1959 (gage height, 0.71 ft), result of construction work upstream.

Flood in January 1939 reached a stage of 38.1 ft, from levels to high-water mark by Corps of Engineers.

Remarks.--High flow regulated during the 1959-60 water years by Buckhorn Reservoir which was under construction.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	12.2	44.5	878	2,874	1,959	713	1,002	110	172	37.9	9.01	68.1	650
1958	36.6	412	974	503	1,127	967	2,006	1,599	375	560	556	41.4	761
1959	26.0	114	225	1,073	755	498	1,219	378	330	55.1	31.1	27.9	391
1960	96.2	634	949	818	1,102	1,220	471	215	718	702	191	145	604

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	0.03	0.12	2.41	7.89	4.86	1.96	2.66	0.30	0.46	0.10	0.02	0.18	20.99
1958	.10	1.09	2.67	1.38	2.79	2.65	5.33	4.39	1.00	1.54	1.53	.11	24.58
1959	.07	.30	.62	2.95	1.87	1.37	3.24	1.04	.88	.15	.09	.07	12.65
1960	.26	1.68	2.60	2.24	2.83	3.35	1.25	.59	1.91	1.93	.53	.39	19.56

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1957	1505	82,300	Jan. 29, 1957	1.4	650	1.55	20.99	690	22.29
1958	1555	14,300	May 6, 1958	9.0	761	1.81	24.58	672	21.71
1959	1625	9,660	Jan. 22, 1959	1.7	391	.931	12.65	501	16.20
1960	1705	6,170	June 25, 1960	5.2	604	1.44	19.56	-	-

2810. Middle Fork Kentucky River at Tallega, Ky.

Location.--Lat 37°33'18", long 83°35'38", on downstream side of left pier of highway bridge, 100 ft upstream from Lynam Creek, 0.5 mile southwest of Tallega, Lee County, and 7.9 miles upstream from confluence with North Fork.

Drainage area.--537 sq mi.

Records available.--October 1930 to March 1932, October 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 642.13 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Oct. 16, 1930, to Mar. 31, 1932, chain gage and Oct. 30, 1939, to Feb. 6, 1940, wire-weight gage, at same site and datum.

Average discharge.--22 years (1930-31, 1939-60), 683 cfs.

Extremes.--1930-32, 1939-60: Maximum discharge, 52,700 cfs Jan. 30 (gage height, 43.33 ft), from rating curve extended above 14,000 cfs on basis of contracted-opening measurement of peak flow; minimum daily, 0.1 cfs Oct. 12-22, 1953.

Flood in February 1939 reached a stage of 40.5 ft, from information by Corps of Engineers.

Revisions.--The momentary maximum discharge for the water year 1946, published in WSP 1305, was revised to 25,700 cfs in WSP 1505.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	153	765	1,295	1,329	3,469	1,629	1,198	542	153	94.5	43.6	73.6	878
1952	11.5	889	2,204	2,322	1,109	2,409	914	1,061	425	34.6	98.8	40.9	963
1953	5.00	175	607	1,758	1,198	1,210	660	1,607	148	76.7	7.64	2.80	621
1954	.21	.60	23.2	791	138	1,162	702	599	221	253	67.4	41.5	336
1955	44.7	111	1,126	698	2,427	4,841	835	229	64.4	66.6	46.3	4.29	868
1956	12.7	27.2	73.9	272	3,912	2,721	2,322	482	297	586	52.7	52.9	887
1957	23.2	53.0	1,296	3,472	2,824	922	1,406	156	215	54.2	10.4	91.8	866
1958	40.2	576	1,355	695	1,371	1,364	2,721	2,196	426	706	722	67.7	1,018
1959	35.3	136	246	1,360	1,063	612	1,670	439	349	85.4	88.0	48.9	506
1960	112	729	1,228	1,138	1,609	1,659	675	291	844	949	289	192	807

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.33	1.59	2.78	2.85	6.73	3.50	2.49	1.16	0.32	0.20	0.09	0.15	22.19
1952	.02	1.85	4.73	4.98	2.23	5.17	1.90	2.28	.88	.07	.21	.08	24.40
1953	.01	.36	1.30	3.78	2.32	2.60	1.37	3.45	.31	.16	.02	.006	15.69
1954	.0005	.001	.05	1.70	.27	2.50	1.46	1.29	.46	.54	.14	.09	8.50
1955	.10	.23	2.42	1.50	4.17	10.39	1.74	.49	.13	.14	.10	.009	21.96
1956	.03	.06	.16	.58	7.86	5.84	4.83	1.03	.62	1.26	.11	.11	22.49
1957	.05	.11	2.78	7.45	5.48	1.98	2.92	.34	.45	.12	.02	.19	21.89
1958	.09	1.20	2.91	1.49	2.66	2.93	5.65	4.71	.88	1.52	1.55	.14	25.73
1959	.08	.28	.53	2.92	2.06	1.31	3.47	.94	.72	.18	.19	.10	12.78
1960	.24	1.51	2.64	2.44	3.23	3.56	1.40	.63	1.75	2.04	.62	.40	20.46

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,041	26.31
1951	1205,1505	35,300	Feb. 2, 1951	6.2	878	1.64	22.19	953	24.09
1952	1255	14,300	Mar. 24, 1952	4.9	963	1.79	24.40	769	19.47
1953	1275	8,440	May 8, 1953	.7	621	1.16	15.69	556	14.07
1954	1355	5,480	Jan. 17, 1954	.1	336	1.62	8.50	442	11.20
1955	1385	14,600	Mar. 1, 1955	1.3	868	1.62	21.96	769	19.46
1956	1435	19,400	Feb. 19, 1956	2.3	887	1.65	22.49	994	25.18
1957	1505	52,700	Jan. 30, 1957	1.6	866	1.61	21.89	915	23.15
1958	1555	15,400	May 8, 1958	12	1,018	1.90	25.73	887	22.42
1959	1625	8,990	Jan. 23, 1959	8.5	506	.942	12.78	645	16.28
1960	1705	6,100	Mar. 18, 1960	8.5	807	1.50	20.46	-	-

2815. South Fork Kentucky River at Booneville, Ky.

Location.--Lat 37°28'45", long 83°40'38", on right bank 600 ft downstream from Buck Creek, 900 ft (revised) downstream from bridge on State Highway 30 at Booneville, Owsley County, and 0.5 mile downstream from Meadow Creek.

Drainage area.--722 sq mi (revised).

Records available.--March 1925 to September 1931, October 1939 to September 1960. Monthly discharge only for October 1939, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 642.49 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Aug. 5, 1925, staff gage at site 700 ft upstream from Meadow Creek and Aug. 5, 1925, to Sept. 30, 1929, tape gage on highway bridge 600 ft upstream from Meadow Creek, at datum 3.07 ft higher. Oct. 1 to Nov. 27, 1929, staff gage at present site and datum.

Average discharge.--27 years (1925-31, 1939-60) 1,011 cfs.

Extremes.--1925-60: Maximum discharge, 66,100 cfs Jan. 30, 1957, from rating curve extended above 35,000 cfs on basis of slope-area measurement of peak flow; maximum gage height, 43.40 ft Jan. 30, 1957; no flow Oct. 11-28, Nov. 3-14, 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	217	1,554	1,801	2,125	5,151	2,419	1,669	450	101	111	42.7	133	1,288
1952	30.9	1,813	3,417	5,314	1,415	3,799	1,111	1,831	593	46.2	222	58.4	1,478
1953	6.50	454	367	2,814	1,648	1,718	906	2,205	165	94.5	12.0	1.33	916
1954	5.08		12.1	1,239	252	1,855	845	760	174	62.7	41.3	27.4	442
1955	54.5	107	1,681	894	3,885	6,329	1,110	372	104	281	55.4	4.17	1,228
1956	15.5	37.7	119	524	5,905	3,319	2,937	544	336	894	92.4	28.1	1,208
1957	26.1	701	2,479	5,301	3,452	1,123	1,828	157	190	44.2	8.62	118	1,222
1958	49.0	800	1,897	965	2,179	1,608	4,203	2,825	589	1,187	946	144	1,443
1959	67.6	367	353	1,884	1,589	826	2,307	511	360	177	143	76.4	714
1960	174	1,210	1,627	1,436	2,492	2,320	778	580	2,345	1,562	452	123	1,253

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.35	2.40	2.88	3.39	7.43	3.66	2.58	0.72	0.16	0.18	0.07	0.20	24.22
1952	.05	2.80	5.46	5.29	2.11	6.07	1.72	2.92	.92	.07	.36	.09	27.86
1953	.01	.70	1.54	4.49	2.38	2.74	1.40	3.52	.26	.15	.02	.002	17.21
1954	.0001	.0005	.02	1.98	.36	2.96	1.31	1.21	.27	.10	.07	.04	8.32
1955	.09	.17	2.68	1.43	5.60	10.11	1.72	.59	.16	.45	.09	.006	23.10
1956	.02	.06	.19	.84	8.82	5.30	4.54	.87	.52	1.43	.15	.04	22.78
1957	.04	.11	3.96	8.47	4.98	1.79	2.83	.25	.29	.07	.01	.18	22.98
1958	.08	1.24	3.03	1.54	3.14	2.56	6.49	4.51	.91	1.90	1.51	.22	27.13
1959	.11	.57	.56	3.01	2.29	1.32	3.56	.82	.56	.28	.23	.12	13.43
1960	.28	1.87	2.60	2.29	3.72	3.71	1.20	.93	3.62	2.49	.72	.19	23.62

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-		-	-	-	-	1,581	29.72
1951	1205	41,000	Feb. 2, 1951	5	1,288	1.78	24.22	1,431	28.90
1952	1235	31,900	Mar. 23, 1952	9.9	1,478	2.05	27.86	1,157	21.80
1953	1275	12,600	May 7, 1953	.5	916	1.27	17.21	797	14.98
1954	1335	8,230	Jan. 16, 1954	0	442	.612	8.32	598	11.24
1955	1385	26,700	Mar. 22, 1955	1.2	1,228	1.70	23.10	1,086	20.43
1956	1435	39,600	Feb. 18, 1956	1.8	1,208	1.67	22.78	1,412	26.62
1957	1505	66,100	Jan. 30, 1957	.6	1,222	1.69	22.98	1,235	23.22
1958	1555	23,800	May 8, 1958	14	1,443	2.00	27.13	1,278	24.02
1959	1625	18,900	Jan. 22, 1959	9.6	714	.989	13.43	900	16.94
1960	1705	24,600	June 24, 1960	12	1,253	1.74	23.62	-	-

2820. Kentucky River at lock 14, at Heidelberg, Ky.

Location.--Lat 37°33'19", long 83°46'06", on right bank 1,000 ft upstream from lock 14 at Heidelberg, Lee County, 0.5 mile upstream from Sturgeon Creek, and at mile 249.2.

Drainage area.--2,657 sq mi.

Records available.--October 1925 to September 1931, December 1936 to February 1937, July 1938 to September 1960. Gage-height records collected in this vicinity since 1902 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 626.66 ft above mean sea level, Ohio River datum (Corps of Engineers bench mark). Prior to Sept. 2, 1939, staff gage at lock 14 at same datum.

Average discharge.--28 years (1925-31, 1938-60), 3,522 cfs.

Extremes.--1925-31, 1936-37, 1938-60: Maximum discharge, 120,000 cfs Feb. 4, 1939 (gage height, 35.6 ft, from floodmark); minimum, 4 cfs Oct. 20, 1930; minimum gage height observed, 2.9 ft Nov. 22, 1953.

Remarks.--Records of chemical analyses for the periods October 1950 to August 1951 and October 1956 to September 1957 are published in WSP 1197 and 1520.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	800	4,776	6,510	6,895	16,450	8,204	5,868	2,929	688	444	231	512	4,428
1952	129	5,295	10,860	11,630	5,476	12,380	4,302	5,648	2,313	228	563	180	4,934
1953	45.1	957	2,712	8,429	5,424	6,325	3,347	7,901	655	417	64.6	33.8	3,026
1954	22.2	18.9	49.4	3,520	696	5,270	3,060	2,601	677	861	309	205	1,452
1955	215	517	4,633	3,499	11,300	23,840	3,617	1,332	362	548	192	21.1	4,148
1956	68.7	115	278	1,072	17,780	12,540	11,480	2,256	1,431	2,281	473	246	4,104
1957	137	405	6,599	14,050	14,090	4,827	6,624	787	669	207	61.2	352	3,990
1958	180	2,604	6,032	2,938	6,799	6,083	13,550	10,300	1,653	3,591	3,669	419	4,806
1959	213	768	1,164	5,889	5,097	2,625	8,168	1,909	1,393	393	327	197	2,319
1960	522	3,112	5,181	5,047	8,245	7,843	3,020	1,598	4,001	4,676	1,238	618	3,746

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.35	2.01	2.82	2.90	6.45	3.56	2.46	1.27	0.29	0.19	0.10	0.22	22.62
1952	.08	2.22	4.71	5.05	2.22	5.37	1.81	2.45	.97	.10	.24	.08	25.28
1953	.02	.40	1.18	3.67	2.13	2.74	1.41	3.43	.28	.18	.03	.01	15.48
1954	.01	.008	.02	1.53	.27	2.29	1.29	1.13	.28	.37	.13	.09	7.42
1955	.09	.22	2.01	1.52	4.43	10.34	1.52	.58	.15	.24	.08	.009	21.19
1956	.03	.05	.12	.47	7.22	5.44	4.82	.98	.60	.99	.21	.10	21.03
1957	.06	.17	2.86	6.10	5.52	2.01	2.78	.34	.28	.09	.03	.15	20.39
1958	.08	1.09	2.62	1.27	2.66	2.64	5.69	4.47	.69	1.56	1.60	.18	24.55
1959	.09	.32	.51	2.56	2.00	1.14	3.43	.83	.58	.17	.14	.08	11.85
1960	.23	1.51	2.25	2.19	3.35	3.40	1.27	.69	1.68	2.03	.54	.26	19.20

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	5,289	27.04
1951	1205	100,000	Feb. 2, 1951	51	4,428	1.67	22.62	4,782	24.43
1952	1235	70,500	Mar. 24, 1952	70	4,934	1.86	25.28	3,881	19.89
1953	1275	30,500	May 7, 1953	18	3,026	1.14	15.48	2,720	13.91
1954	1335	18,600	Jan. 17, 1954	13	1,452	.546	7.42	1,898	9.71
1955	1385	75,000	Mar. 1, 1955	12	4,148	1.56	21.19	3,732	19.07
1956	1435	74,200	Feb. 19, 1956	25	4,104	1.54	21.03	4,669	23.92
1957	1505	116,000	Jan. 30, 1957	10	3,990	1.50	20.39	4,127	21.09
1958	1555	63,300	May 8, 1958	54	4,806	1.81	24.55	4,245	21.68
1959	1625	37,700	Jan. 23, 1959	39	2,319	.873	11.85	2,879	14.72
1960	1705	28,500	Mar. 18, 1960	60	3,746	1.41	19.20	-	-

KENTUCKY RIVER BASIN

2825. Red River near Hazel Green, Ky.

Location.--Lat 37°48'44", long 83°27'50", on right bank 600 ft upstream from Buck Creek, 0.3 mile downstream from Chapel Branch, and 2.7 miles northwest of Hazel Green, Wolf County.

Drainage area.--65.8 sq mi.

Records available.--April 1954 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 880 ft (from topographic map).

Average discharge.--6 years (1954-60), 86.0 cfs.

Extremes.--1954-60: Maximum discharge, 3,020 cfs Feb. 28, 1955 (gage height, 10.64 ft); no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	71.9	5.88	3.88	4.09	11.6	-
1955	4.82	17.1	110	85.7	349	523	83.7	24.6	15.0	34.2	2.95	.17	103
1956	.41	.54	2.82	37.6	447	263	282	49.2	14.6	50.1	10.1	3.78	95.1
1957	2.67	18.6	230	298	243	115	191	14.2	68.7	3.40	.27	7.49	98.4
1958	2.33	102	191	75.3	150	131	337	196	6.61	69.3	47.2	5.00	109
1959	1.70	7.94	15.0	98.7	103	49.3	213	33.5	17.9	5.61	1.71	2.06	45.1
1960	3.02	22.9	63.4	85.2	201	189	62.3	35.7	37.6	86.6	3.21	2.15	65.6

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	1.26	0.10	0.07	0.07	0.20	-
1955	0.08	0.29	1.93	1.50	5.52	9.17	1.42	.43	.26	.60	.05	.003	21.25
1956	.007	.009	.05	.66	7.33	4.62	4.79	.86	.25	.88	.18	.06	19.70
1957	.05	.32	4.03	5.22	3.84	2.02	3.24	.25	1.17	.06	.005	.13	20.34
1958	.04	1.72	3.35	1.32	2.37	2.30	5.71	3.43	.11	1.21	.83	.08	22.47
1959	.03	.13	.26	1.73	1.63	.96	3.60	.59	.30	1.10	.03	.03	9.29
1960	.05	.39	1.11	1.49	3.29	3.31	1.06	.63	.64	1.52	.06	.04	13.59

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	1335	a692	May 8, 1954	-	-	-	-	-	-
1955	1385	3,020	Feb. 28, 1955	0	103	1.57	21.25	92.2	19.02
1956	1435	3,000	Apr. 15, 1956	0	95.1	1.45	19.70	116	24.03
1957	1505	2,650	Dec. 14, 1956	0	98.4	1.50	20.34	102	21.04
1958	1555	2,370	Apr. 28, 1958	.4	109	1.66	22.47	86.3	17.78
1959	1625	1,350	Apr. 11, 1959	0	45.1	.685	9.29	50.6	10.42
1960	1705	1,909	Feb. 11, 1960	0	65.6	.997	13.59	-	-

a Maximum during period May to September.

2830. Stillwater Creek at Stillwater, Ky.

Location.--Lat 37°45'24", long 83°29'12", on right bank 15 ft downstream from bridge on State Highway 15, 90 ft downstream from Trace Fork, 2.1 miles upstream from Laurel Fork, at Stillwater, Wolfe County.

Drainage area.--24.0 sq mi.

Records available.--May 1954 to September 1960.

Gage.--Water-stage recorder and concrete control after Sept. 28, 1955. Datum of gage is 883.83 ft above mean sea level, datum of 1929.

Average discharge.--6 years (1954-60), 34.1 cfs.

Extremes.--1954-60: Maximum discharge, 3,890 cfs Dec. 14, 1956 (gage height, 12.91 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurement at gage height 11.5 ft; no flow for many days.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	2.46	7.13	46.1	28.8	140	171	20.0	6.44	8.40	1.90	1.70	1.72	36.0
									2.83	12.0	1.46	.06	
1956	.19	.26	1.80	21.1	181	96.5	114	19.8	11.7	26.2	5.32	2.57	39.3
1957	1.54	10.0	99.3	125	101	45.7	77.7	6.93	31.8	1.67	.50	9.73	42.3
1958	2.14	68.5	84.3	31.8	68.0	51.9	128	60.2	1.40	19.4	8.43	1.47	43.5
1959	.43	3.37	6.51	41.9	37.9	15.2	74.5	7.85	1.91	1.77	1.41	.41	15.9
1960	1.78	11.3	26.7	31.0	77.7	74.8	19.8	11.0	25.7	51.8	1.88	1.08	27.8

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	0.12	0.33	2.21	1.39	6.09	8.20	0.93	0.31	0.39	0.09	0.08	0.08	20.35
									.13	.57	.07	.003	
1956	.009	.01	.09	1.01	8.12	4.64	5.30	.95	.54	1.26	.26	.11	22.30
1957	.07	.47	4.77	6.03	4.40	2.19	3.61	.33	1.48	.08	.02	.45	23.90
1958	1.10	3.18	4.05	1.53	2.95	2.49	5.96	2.89	.07	.93	.41	.07	24.63
1959	.02	.16	.51	2.01	1.65	.73	3.46	.38	.09	.08	.07	.02	8.98
1960	.09	.52	1.28	1.49	3.49	3.59	.92	.53	1.20	2.49	.09	.05	15.74

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	1385	2226	June 14, 1954	-	-	-	-	-	-
1955	1385	2,600	Feb. 28, 1955	0	36.0	1.50	20.35	31.5	17.80
1956	1435	2,960	Feb. 18, 1956	0	39.3	1.64	22.30	48.5	27.50
1957	1505	3,890	Dec. 14, 1956	0	42.3	1.76	23.90	45.9	25.92
1958	1555	3,520	Nov. 18, 1957	.1	43.5	1.81	24.63	31.4	17.79
1959	1625	921	Apr. 10, 1959	0	15.9	.662	8.98	18.4	10.58
1960	1705	1,980	July 1, 1960	0	27.8	1.16	15.74	-	-

a Maximum during period June to September.

2835. Red River at Clay City, Ky.

Location.--Lat 37°51'52", long 83°55'59", on downstream side of pier on left bank at bridge on State Highway 15 at Waltersville, 500 ft upstream from Brush Creek, half a mile west of Clay City, Powell County, and 4.8 miles upstream from Hardwick Creek.

Drainage area.--362 sq mi (revised).

Records available.--October 1930 to March 1932, April 1938 to September 1960. Monthly discharge only for October 1930, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 600.47 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Aug. 14, 1939, chain or wire-weight gages at same site and datum.

Average discharge.--23 years (1930-31, 1938-60), 468 cfs.

Extremes.--1930-32, 1938-60: Maximum discharge, 21,100 cfs July 15, 1938 (gage height, 22.8 ft); minimum, 1.2 cfs Aug. 10-12, 1944 (gage height, 0.52 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	196	1,039	886	1,303	1,819	1,148	786	436	171	67.0	57.1	40.8	655
1952	21.8	705	1,576	1,456	841	1,893	420	477	184	39.0	33.7	37.2	642
1953	12.5	132	223	1,061	551	1,060	595	784	108	64.6	20.7	8.66	386
1954	5.70	175	19.7	269	127	581	444	392	69.3	51.5	67.4	136	182
1955	52.4	89.3	564	456	1,549	3,048	368	173	108	560	73.2	11.9	585
1956	26.5	40.7	48.1	294	2,552	1,301	1,397	329	278	348	81.9	41.3	552
1957	31.5	105	1,277	1,541	1,362	589	961	157	277	34.2	18.2	86.1	532
1958	27.1	467	1,017	413	755	595	1,740	962	64.4	585	471	53.8	593
1959	22.3	61.7	114	594	555	327	867	197	85.9	57.5	35.3	25.3	242
1960	31.9	110	339	470	1,137	1,043	392	227	465	564	91.0	70.0	409

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.62	3.20	2.82	4.15	5.23	3.66	2.42	1.39	0.53	0.21	0.18	0.13	24.54
1952	.07	2.17	5.02	4.64	2.51	6.03	1.29	1.52	.57	.12	.11	.11	24.16
1953	.04	.41	.71	3.38	1.58	3.38	1.83	2.50	.33	.21	.07	.03	14.47
1954	.02	.03	.06	.86	.37	1.85	1.37	1.25	.21	.16	.21	.42	6.61
1955	.17	.28	1.80	1.45	4.46	9.71	1.13	.55	.33	1.78	.23	.04	21.93
1956	.08	.13	.15	.94	7.60	4.14	4.30	1.05	.86	1.11	.26	.13	20.75
1957	.10	.32	4.07	4.91	3.92	1.88	2.96	.50	.85	.11	.06	.27	19.95
1958	.09	1.44	3.24	1.31	2.12	1.90	5.36	3.06	.20	1.86	1.50	.17	22.25
1959	.07	.19	.36	1.89	1.60	1.04	2.67	.63	.26	.18	.11	.09	9.08
1960	.10	.34	1.08	1.50	3.39	3.32	1.21	.72	1.43	1.80	.29	.22	15.40

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	963	36.12
1951	1205	5,800	Jan. 16, 1951	15	655	1.81	24.54	671	25.16
1952	1235	19,200	Mar. 23, 1952	5.0	642	1.77	24.16	480	18.06
1953	1275	7,180	Jan. 9, 1953	3.2	386	1.07	14.47	358	13.42
1954	1335	2,180	May 8, 1954	4.0	182	.503	6.81	238	8.95
1955	1385	12,800	Mar. 1, 1955	6.3	585	1.62	21.93	535	20.04
1956	1435	10,400	Feb. 19, 1956	13	552	1.52	20.75	662	24.88
1957	1505	12,000	Dec. 15, 1956	3.7	532	1.47	19.95	539	20.23
1958	1555	11,500	Apr. 28, 1958	11	593	1.64	22.25	483	18.10
1959	1625	3,320	Jan. 23, 1959	3.0	242	.669	9.08	266	9.98
1960	1705	4,590	Feb. 12, 1960	3.4	409	1.13	15.40	-	-

2840. Kentucky River at lock 10, near Winchester, Ky.

Location (revised).--Lat 37°53'41", long 84°15'44", on left bank at lock 10, 0.9 mile downstream from Otter Creek, 8 miles southwest of Winchester, Clark County, and at mile 176.4.

Drainage area.--3,955 sq mi (revised).

Records available.--October 1907 to September 1960.

Gage.--Upper staff gage at lock 10, read twice daily. Datum of gage is 557.37 ft above mean sea level, Ohio River datum. Feb. 2, 1940, to Aug. 10, 1943, water-stage recorder 1.1 miles upstream at different datum. Auxiliary gage is upper staff gage at lock 9, at Valley View, 18.9 miles downstream.

Average discharge.--53 years (1907-60), 5,177 cfs.

Extremes.--1907-60: Maximum discharge, 92,400 cfs Feb. 5, 1939 (from graph based on gage readings); maximum gage height, 35.1 ft Mar. 29, 1913; minimum discharge, less than 10 cfs (estimated) in October 1930.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,346	8,043	9,525	11,330	23,290	12,070	8,436	4,055	941	516	408	612	6,602
1952	162	7,796	16,440	16,620	8,270	18,430	5,380	7,127	2,924	369	548	289	7,054
1953	91.1	1,149	3,599	12,050	7,345	9,625	5,533	10,420	1,482	831	165	68.5	4,368
1954	39.7	52.7	83.1	4,735	1,008	6,891	4,511	3,831	808	1,002	429	588	2,012
1955	329	626	5,598	5,539	15,270	34,470	4,570	2,018	835	2,538	458	74.2	6,000
1956	175	312	523	2,090	26,680	17,020	16,780	3,361	2,055	3,349	725	356	6,020
1957	181	558	10,010	14,710	22,900	6,800	10,950	1,811	1,333	305	123	638	5,748
1958	256	4,431	9,754	4,543	9,395	8,091	18,510	14,560	2,082	6,660	5,810	656	7,050
1959	270	776	1,665	8,286	7,352	4,032	10,740	2,867	1,793	536	672	288	3,238
1960	570	3,040	6,505	6,704	11,790	11,440	4,310	2,466	6,822	6,915	1,767	1,032	5,260

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.39	2.27	2.78	3.30	6.13	3.52	2.38	1.18	0.27	0.15	0.12	0.17	22.66
1952	.05	2.20	4.79	4.84	2.26	5.37	1.52	2.08	.82	.11	.16	.08	24.28
1953	.03	.34	1.05	3.51	1.95	2.81	1.56	5.04	.42	.24	.05	.02	15.00
1954	.01	.01	.02	1.38	.27	2.01	1.27	1.12	.23	.29	.12	.17	6.90
1955	.10	.18	1.63	1.61	4.02	10.05	1.29	.59	.24	.74	.13	.02	20.60
1956	.05	.09	.15	.61	7.28	4.96	4.73	.98	.58	.98	.21	.10	20.72
1957	.05	.16	2.92	4.29	6.03	1.98	3.09	.53	.38	.09	.04	.18	19.74
1958	.07	1.25	2.84	1.32	2.47	2.36	5.22	4.24	.59	1.94	1.69	.18	24.17
1959	.08	.22	.49	2.42	1.94	1.18	3.03	.84	.51	.16	.20	.08	11.15
1960	.17	.86	1.90	1.95	3.21	3.33	1.22	.72	1.92	2.02	.52	.29	18.11

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	8,272	28.39
1951	1205	69,700	Feb. 4, 1951	66	6,602	1.67	22.66	7,068	24.26
1952	1235	72,200	Mar. 24, 1952	75	7,054	1.78	24.28	5,420	18.66
1953	1275	58,900	Jan. 10, 1953	35	4,568	1.10	15.00	3,971	13.62
1954	1335	20,400	Jan. 17, 1954	30	2,012	.509	6.90	2,552	8.77
1955	1385	74,000	Mar. 3, 1955	40	6,000	1.52	20.60	5,530	18.98
1956	1435	64,000	Feb. 20, 1956	124	6,020	1.52	20.72	6,846	23.56
1957	1505	85,400	Feb. 1, 1957	80	5,748	1.45	19.74	6,050	20.77
1958	1555	57,900	May 10, 1958	142	7,050	1.78	24.17	6,064	20.80
1959	1625	38,200	Jan. 24, 1959	106	3,238	.819	11.15	3,861	13.29
1960	1705	39,600	June 24, 1960	103	5,260	1.33	18.11	-	-

2845. Kentucky River at lock 8, near Camp Nelson, Ky.

Location.--Lat 37°44'43", long 84°35'12", on wall of lock 8 near right bank, 2.7 miles (revised) southeast of Camp Nelson, Jessamine County, 2.7 miles downstream from Sugar Creek, 4.5 miles upstream from Hickman Creek, and at mile 139.9.

Drainage area.--4,414 sq mi.

Records available.--July 1939 to September 1960.

Gage.--Staff gage. Datum of gage is 520.50 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Since Oct. 1, 1951, auxiliary water-stage recorder 4.8 miles downstream.

Average discharge.--21 years (1939-60), 5,604 cfs.

Extremes.--1939-60: Maximum discharge, 89,700 cfs Feb. 2, 1957 (gage height, 38.52 ft. From graph based on gage readings and floodmarks); minimum discharge not determined. Flood of Mar. 28, 1913, reached a stage of 40.0 ft (discharge, 103,000 cfs). Flood of Jan. 23, 1937, reached a stage of 41.2 ft (discharge, 91,500 cfs). Flood of Feb. 6, 1939, reached a stage of 38.6 ft (discharge, 94,800 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,555	8,951	10,670	13,340	26,890	13,720	9,389	4,397	1,070	587	489	603	7,509
1952	187	8,974	18,790	18,590	9,377	21,050	5,508	7,293	3,188	518	668	334	7,901
1953	115	1,268	3,840	12,930	7,783	11,060	6,237	11,230	1,751	1,003	227	89.0	4,795
1954	45.8	63.5	92.4	5,045	1,081	7,098	4,796	3,931	901	1,035	478	697	2,119
1955	347	630	5,582	5,897	16,960	39,250	4,586	2,156	1,188	3,360	573	87.8	6,690
1956	197	339	588	2,604	31,030	18,490	17,160	3,387	2,037	3,967	793	431	6,638
1957	219	605	11,200	15,680	26,390	7,425	13,390	2,229	1,422	319	137	673	6,508
1958	263	5,027	10,720	4,902	9,770	6,248	19,020	15,590	2,165	7,971	5,946	682	7,516
1959	300	716	1,706	9,138	7,973	4,398	11,370	3,029	1,935	547	806	309	3,481
1960	569	3,130	7,345	7,496	13,250	12,770	4,642	2,562	7,756	7,389	1,968	1,296	5,626

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.41	2.26	2.79	3.48	6.34	3.58	2.37	1.15	0.27	0.15	0.13	0.15	23.08
1952	.05	2.27	4.91	4.85	2.29	5.50	1.39	1.90	.81	.14	.17	.08	24.36
1953	.03	.32	1.00	3.38	1.83	2.89	1.58	2.93	.44	.26	.06	.02	14.74
1954	.01	.02	.02	1.32	.25	1.85	1.21	1.03	.23	.27	.12	.18	6.51
1955	.09	.16	1.46	1.54	4.00	10.25	1.16	.56	.30	.88	.15	.02	20.57
1956	.05	.09	.15	.68	7.58	4.83	4.34	.88	.51	1.04	.21	.11	20.47
1957	.06	.15	2.93	4.10	6.23	1.94	3.39	.58	.36	.08	.04	.17	20.03
1958	.07	1.27	2.60	1.28	2.30	2.15	4.81	4.07	.55	2.08	1.55	.17	23.10
1959	.08	.18	.45	2.39	1.88	1.15	2.87	.79	.49	.14	.21	.08	10.71
1960	.15	.79	1.92	1.96	3.24	3.34	1.17	.67	1.96	1.93	.51	.33	17.97

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	9,469	29.12	
1951	1205	74,600	Feb. 4, 1951	90	7,509	1.70	23.08	8,084	24.85		
1952	1235	78,100	Mar. 25, 1952	80	7,901	1.79	24.36	5,997	18.48		
1953	1275	40,300	Jan. 10, 1953	50	4,795	1.09	14.74	4,372	13.44		
1954	1335	20,400	Mar. 5, 1954	35	2,119	.480	6.51	2,657	8.17		
1955	1385	82,100	Mar. 4, 1955	50	6,690	1.52	20.57	6,229	19.15		
1956	1435	70,300	Feb. 21, 1956	150	6,638	1.50	20.47	7,561	23.32		
1957	1505	89,700	Feb. 2, 1957	95	6,508	1.47	20.03	6,834	21.03		
1958	1555	58,700	May 10, 1958	160	7,516	1.70	23.10	6,399	19.67		
1959	1625	37,600	Jan. 24, 1959	100	3,481	.789	10.71	4,181	12.86		
1960	1705	52,600	June 23, 1960	100	5,825	1.32	17.97	-	-		

2850. Dix River near Danville, Ky.

Location.--Lat 37°38'31", long 84°39'39", on right bank 50 ft downstream from bridge on State Highway 52, 1.4 miles (revised) downstream from Hanging Fork, and 6 miles east of Danville, Boyle County.

Drainage area.--318 sq mi (revised).

Records available.--May to August 1905 (gage heights only), October 1942 to September 1960. Published as Dicks River near Danville, 1905.

Gage.--Water-stage recorder. Datum of gage is 750.10 ft above mean sea level, datum of 1929. Prior to Dec. 16, 1942, staff gage at same site and datum. May to August 1905, staff gage at site 6 miles downstream at different datum. Auxiliary staff gage at site 2 miles downstream from base gage read during periods of possible backwater.

Average discharge.--18 years (1942-60), 443 cfs.

Extremes.--1942-60: Maximum discharge, 20,900 cfs Mar. 5, 1945 (gage height, 16.28 ft); no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	69.9	759	748	1,459	1,849	875	509	106	23.7	41.0	15.3	17.9	531
1952	4.14	933	1,571	1,386	595	1,516	175	230	77.6	54.0	.93	.20	546
1953	0	18.9	110	882	387	768	438	863	201	198	4.38	.01	331
1954	0	.03	.69	459	72.1	189	366	115	25.7	74.1	105	15.2	119
1955	31.2	3.15	353	334	1,895	2,402	113	122	334	152	24.4	.72	473
1956	24.8	62.9	48.6	556	3,015	1,485	944	183	92.0	313	22.1	16.4	553
1957	.63	1.41	547	1,340	1,261	623	1,630	401	194	64.7	4.46	142	512
1958	18.3	966	1,266	536	631	661	1,150	648	126	926	527	90.5	629
1959	16.8	86.2	143	832	549	376	508	53.5	20.2	55.7	28.5	4.57	221
1960	.35	47.3	379	524	1,037	1,003	200	136	799	302	66.0	53.6	377

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.25	2.66	2.71	5.29	6.06	3.17	1.78	0.38	0.08	0.15	0.06	0.06	22.65
1952	.02	3.27	5.70	5.03	2.02	5.50	.62	.83	.27	.12	.003	.0007	23.38
1953	0	.07	.40	3.20	1.27	2.78	1.54	3.49	.70	.68	.02	.00005	14.15
1954	0	.0001	.002	1.66	.24	.68	1.28	.42	.09	.27	.38	.05	5.07
1955	.11	.01	1.28	1.21	6.21	8.71	.40	.44	1.17	.55	.09	.003	20.18
1956	.09	.22	.18	2.02	10.23	5.38	3.31	.66	.32	1.13	.08	.06	23.68
1957	.002	.005	1.98	4.86	4.13	2.28	5.72	1.45	.68	.23	.02	.50	21.84
1958	.07	3.39	4.59	1.94	2.07	2.40	4.03	2.35	.44	3.38	1.91	.32	26.87
1959	.06	.30	.52	3.02	1.80	1.36	1.78	.19	.07	.20	.10	.02	9.42
1960	.001	.17	1.37	1.90	3.52	3.64	.70	.49	2.80	1.10	.24	.19	16.12

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	33.82
1951	1205	9,220	Jan. 4, 1951	0	531	1.67	22.65	793	26.02
1952	1235	16,900	Mar. 23, 1952	0	546	1.72	23.38	610	14.86
1953	1275	7,420	May 19, 1953	0	331	1.04	14.15	347	13.68
1954	1335	5,610	Apr. 16, 1954	0	119	.374	5.07	152	6.47
1955	1385	14,600	Mar. 22, 1955	.2	473	1.49	20.18	451	19.27
1956	1435	15,500	Feb. 17, 1956	1.0	553	1.74	23.68	586	25.18
1957	1505	15,900	Apr. 4, 1957	0	532	1.61	21.84	654	27.90
1958	1555	14,700	Nov. 19, 1957	.9	629	1.98	26.87	461	19.70
1959	1625	7,240	Jan. 22, 1959	.1	221	.695	9.42	236	10.08
1960	1705	9,580	June 23, 1960	.1	377	1.19	16.12	-	-

2860. Herrington Lake near Burgin, Ky.

Location.--Lat 37°47'08", long 84°42'14", at Dix Dam on Dix River, 2.9 miles upstream from mouth and 8 miles east of Burgin, Mercer County.

Drainage area.--439 sq mi.

Records available.--October 1950 to September 1960 in reports of Geological Survey. November 1925 to September 1960 in files of Kentucky Utilities Co.

Gage.--Indicator gage. Datum of gage is at mean sea level (levels by Kentucky Utilities Co.).

Extremes.--1925-60: Maximum usable contents, 123,200 acre-ft many times (elevation, 760 ft); minimum contents after first filling, 1,620 acre-ft Dec. 18, 20-27, 1929 (elevation, 681.8 ft).

Remarks.--Reservoir is formed by earth and rockfill dam with side channel spillway controlled by 10 vertical lift gates 35 ft long and 10 to 12 ft high. Storage began Nov. 4, 1925; water in reservoir first reached minimum pool elevation Nov. 26, 1925. Usable capacity between elevations 760 ft (top of spillway gates) and 680 ft (minimum pool, dead storage unknown) is 123,200 acre-ft. Reservoir is used for power.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1950	-	-	-	-	-	-	-	-	-	-	-	75,000
1951	64,500	68,000	35,400	68,100	96,000	84,000	79,600	72,500	60,400	54,300	49,000	44,500
1952	38,400	66,900	88,800	102,900	77,500	104,500	74,300	77,300	74,100	68,400	63,000	56,700
1953	50,500	44,400	29,000	51,100	56,600	73,000	81,200	92,600	86,800	85,200	75,400	67,200
1954	61,800	53,100	33,300	50,800	49,800	54,000	68,000	68,700	63,400	61,500	60,600	51,900
1955	43,300	38,600	50,100	51,000	83,900	101,900	77,500	73,200	83,000	70,600	54,600	46,600
1956	42,000	40,700	39,600	68,200	116,200	95,000	92,600	77,300	73,600	80,900	67,400	63,800
1957	59,200	51,400	51,500	84,700	86,500	91,400	95,400	94,800	92,200	75,900	65,100	61,600
1958	43,000	63,000	71,200	48,000	51,700	76,000	92,000	63,800	59,600	70,400	64,200	50,500
1959	42,800	35,100	30,600	51,500	53,300	62,000	60,300	59,000	55,600	53,900	50,300	45,600
1960	40,900	36,600	30,700	35,500	56,400	65,200	61,200	62,600	80,700	67,700	61,400	52,900

Note.--Contents at 12 p.m.

2870. Kentucky River at lock 6, near Salvisa, Ky.

Location.--Lat 37°55'32", long 84°49'17", on right bank at lock 6, Woodford County, 1.6 miles upstream from Clear Creek, 2.1 miles east of Salvisa, Mercer County, and at mile 96.2.

Drainage area.--5,102 sq mi, of which about 100 sq mi does not contribute directly to surface runoff.

Records available.--October 1925 to September 1960. Prior to October 1953, published as "at lock 6, at Warwick."

Gage.--Water-stage recorder. Datum of gage is 487.89 ft (revised) above mean sea level, unadjusted (Corps of Engineers bench mark). Prior to November 1934, staff gage at same site and datum. Auxiliary staff gage at lock 5, 14 miles downstream read twice daily.

Average discharge.--35 years (1925-60), 6,566 cfs (unadjusted).

Extremes.--1925-60: Maximum discharge, 112,000 cfs Jan. 23, 1937; maximum gage height, 43.35 ft Jan. 25, 1937, from floodmarks; minimum daily discharge, about 15 cfs Aug. 27, 1950.

Remarks.--Flow regulated by Herrington Lake and by hydroelectric plant at lock 7.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,019	10,640	13,310	16,140	30,050	16,020	10,750	4,847	1,506	768	598	707	8,806
1952	325	9,926	21,880	21,440	11,760	23,630	6,575	7,849	3,512	735	824	490	9,107
1953	241	1,427	4,258	14,030	8,431	12,570	7,180	13,290	2,146	1,265	397	248	5,462
1954	160	256	496	5,450	1,196	7,457	5,302	4,269	1,043	1,113	559	924	2,367
1955	518	720	5,588	6,945	19,030	43,790	5,293	2,867	1,401	4,205	1,060	243	7,607
1956	278	392	772	2,668	35,770	21,550	19,430	4,021	2,231	4,516	1,089	464	7,635
1957	301	712	12,440	16,740	28,990	8,455	16,370	3,072	1,635	681	360	821	7,402
1958	708	6,190	13,400	6,640	11,100	8,764	20,440	18,300	2,473	9,590	7,433	1,155	8,845
1959	479	948	2,067	10,490	8,955	4,900	12,290	3,124	2,063	639	943	396	3,900
1960	583	3,026	8,276	8,198	14,740	14,540	5,109	2,627	8,560	8,264	2,383	1,900	6,493

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.42	2.34	2.88	3.77	6.24	3.57	2.33	1.07	0.28	0.15	0.12	0.14	23.31
1952	.05	2.28	5.02	4.90	2.59	5.44	1.33	1.79	.76	.14	.17	.08	24.35
1953	.03	.29	.91	3.25	1.74	2.90	1.60	3.04	.45	.28	.05	.02	14.56
1954	.02	.02	.04	1.30	.24	1.70	1.21	.97	.21	.24	.12	.17	6.24
1955	.09	.14	1.30	1.57	4.00	9.96	1.07	.63	.34	.90	.18	.02	20.20
1956	.05	.08	.17	.71	7.74	4.79	4.24	.85	.47	1.05	.20	.09	20.44
1957	.05	.13	2.81	3.91	5.92	1.93	3.59	.69	.35	.09	.04	.17	19.68
1958	.09	1.43	3.06	1.41	2.28	2.07	4.33	4.03	.53	2.21	1.66	.20	23.50
1959	.08	.18	.45	2.45	1.83	1.14	2.68	.70	.44	.14	.20	.07	10.36
1960	.11	.65	1.85	1.87	3.19	3.32	1.10	.60	1.94	1.82	.52	.38	17.35

a Adjusted for change in contents in Herrington Lake.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year			
		Observed				Adjusted a/			observed		Adjusted a/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date									
1950		-	-	-	1951	217	8,806	-	11,290	11,270	29.96	
1951	1205	70,500	Feb. 5	217	8,806	8,764	1.72	23.31	9,331	9,405	25.02	
1952	1235	77,700	Mar. 26	180	9,107	9,124	1.79	24.35	6,911	6,899	18.23	
1953	1275	44,200	Mar. 4	155	5,462	5,476	1.07	14.56	5,040	5,046	13.41	
1954	1335	20,600	Mar. 5	131	2,367	2,346	.460	6.24	2,868	2,891	7.69	
1955	1585	85,000	Mar. 6	170	7,607	7,600	1.49	20.20	7,151	7,136	18.97	
1956	1435	82,900	Feb. 18	164	7,635	7,658	1.50	20.44	8,652	8,668	23.13	
1957	1505	88,700	Feb. 3	130	7,402	7,399	1.45	19.68	7,967	7,994	21.27	
1958	1555	60,200	May 10	278	8,845	8,830	1.73	23.50	7,432	7,376	19.63	
1959	1625	40,300	Jan. 24	156	3,900	3,893	.763	10.36	4,607	4,607	12.26	
1960	1705	50,500	June 24	134	6,493	6,503	1.27	17.35	-	-	-	

a Adjusted for change in contents in Herrington Lake.

2875. Kentucky River at lock 4, at Frankfort, Ky.

Location.--Lat 38°12'06", long 84°52'54", on left bank at downstream side of Broadway Street Bridge at Frankfort, Franklin County, 300 ft upstream from Benson Creek, 0.9 mile upstream from lock 4, and at mile 65.9. Records include flow of Benson Creek.

Drainage area.--5,412 sq mi (includes that of Benson Creek), of which about 120 sq mi does not contribute directly to surface runoff.

Records available.--March 1905 to July 1906 (gage heights only), October 1925 to September 1960. Monthly discharge only for October 1930 to February 1931, October, November 1931, and May to September 1932, published in WSP 1305. Gage-height records collected in this vicinity September 1887 to December 1889, January to May 1893, and since April 1901 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 462.10 ft above mean sea level, datum of 1929. Prior to Dec. 27, 1939, staff gage at lock 4, 0.9 mile downstream, at same datum. Auxiliary staff gage, read twice daily, at lock 5, at Tyrone, 16.3 miles upstream.

Average discharge.--35 years (1925-60), 6,926 cfs (unadjusted).

Extremes.--1925-60: Maximum discharge, 115,000 cfs Jan. 25, 1937; maximum gage height, 47.46 ft Jan. 25, 1937, from floodmarks, at site 0.9 mile downstream; minimum discharge not determined.

Revisions.--The momentary maximum discharge for the water year 1932, published in WSP 1305, has been revised to 71,800 cfs Feb. 2, 1932 in WSP 1555.

Remarks.--Flow regulated by Herrington Lake and hydroelectric plant at lock 7. Records of chemical analyses and water temperatures for the period October 1949 to September 1960 and suspended sediment loads for the period October 1952 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,059	10,700	13,750	17,720	51,160	16,550	10,830	4,908	1,555	841	710	748	9,150
1952	396	10,240	23,160	21,840	12,190	24,620	6,669	7,945	3,587	758	806	501	9,423
1953	245	1,437	4,566	14,200	8,540	13,640	7,521	13,600	2,132	1,258	459	253	5,662
1954	189	290	555	5,649	1,302	7,465	5,570	4,302	1,059	1,122	583	1,084	2,445
1955	603	850	5,808	7,331	19,220	45,490	5,455	3,046	1,646	4,399	1,095	280	7,905
1956	315	520	877	2,739	36,790	22,680	19,460	4,079	2,317	4,531	1,191	466	7,885
1957	345	765	12,580	16,490	23,780	8,549	17,280	3,373	1,687	757	433	831	7,586
1958	747	7,181	14,230	7,375	11,460	9,487	20,530	19,530	2,629	10,240	8,130	1,287	9,401
1959	506	906	2,177	11,400	9,335	5,078	12,540	3,125	2,132	727	982	420	4,089
1960	707	3,404	9,123	8,614	14,990	14,770	5,451	2,806	9,088	8,648	2,619	2,328	6,855

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.40	2.22	2.81	3.89	6.09	3.48	2.22	1.02	0.28	0.16	0.13	0.14	22.84
1952	.06	2.21	5.01	4.70	2.34	5.34	1.27	1.70	.73	.14	.15	.08	23.73
1953	.03	.28	.92	3.10	1.66	2.96	1.58	2.94	.42	.26	.06	.02	14.23
1954	.02	.03	.05	1.26	.25	1.60	1.20	.92	.20	.23	.12	.19	6.07
1955	.10	.15	1.28	1.56	3.81	9.75	1.04	.63	.37	.89	.18	.03	19.79
1956	.05	.10	.18	.68	7.50	4.76	4.00	.82	.46	.99	.21	.08	19.83
1957	.06	.13	2.68	3.63	5.74	1.84	3.58	.72	.54	1.10	.05	.16	19.03
1958	.09	1.55	3.06	1.49	2.22	2.11	4.29	4.06	.53	2.22	1.71	.22	23.55
1959	.08	.16	.45	2.50	1.80	1.11	2.58	.66	.43	.15	.20	.07	10.19
1960	.13	.69	1.92	1.85	3.06	3.18	1.11	.60	1.94	1.80	.54	.45	17.27

a Adjusted for change in contents in Herrington Lake.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted a/					Observed	Adjusted a/	
		Momentary maximum		Minimum		Mean	Mean		Per square mile	Runoff in inches		Mean	Mean	Runoff in inches
		Discharge	Date	day										
1950	-	-	-	-	-	-	-	-	-	-	-	11,760	11,740	29.43
1951	1205	70,900	Feb. 5, 1951	222	9,150	9,108	1.68	22.84	9,772	9,846	24.69			
1952	1235	76,400	Mar. 26, 1952	236	9,423	9,440	1.74	23.73	7,113	7,031	17.68			
1953	1275	49,100	Mar. 4, 1953	320	5,662	5,676	1.05	14.23	5,222	5,228	13.10			
1954	1335	19,800	Mar. 5, 1954	115	2,445	2,424	1.48	6.07	2,971	2,994	7.50			
1955	1385	84,000	Mar. 6, 1955	190	7,905	7,898	1.46	19.79	7,436	7,422	18.59			
1956	1435	75,000	Feb. 19, 1956	154	7,865	7,868	1.46	19.83	8,879	8,895	22.37			
1957	1505	84,200	Feb. 3, 1957	184	7,586	7,583	1.40	19.03	8,288	8,315	20.86			
1958	1555	60,800	May 11, 1958	353	9,401	9,386	1.73	23.55	7,841	7,785	19.54			
1959	1625	42,600	Jan. 22, 1959	172	4,089	4,062	1.751	10.19	4,882	4,882	12.24			
1960	1705	48,900	June 24, 1960	94	6,855	6,865	1.27	17.27			-			

a Adjusted for change in contents in Herrington Lake.

2880. North Elkhorn Creek near Georgetown, Ky.

Location.--Lat 38°12'20" (revised), long 84°30'49" (revised), on left bank at upstream side of bridge on Crumbull Pike, 1.7 miles downstream from Miller Run, 2½ miles east of Georgetown, Scott County, and 2.6 miles upstream from Lanes Run.

Drainage area.--119 sq mi, of which about 8 sq mi does not contribute directly to surface runoff.

Records available.--October 1949 to September 1960. Monthly discharge only for October 1949 to March 1950, published in WSP 1305.

Gage.--Water-stage recorder and concrete control with crest-stage gage. Datum of gage is 796.49 ft above mean sea level, unadjusted. Prior to Sept. 18, 1952, wire-weight and crest-stage gages at same site and datum.

Average discharge.--11 years (1949-60), 159 cfs.

Extremes.--1949-60: Maximum discharge, 6,480 cfs Mar. 23, 1952 (gage height, 18.41 ft), from rating curve extended above 4,600 cfs; no flow for many days.

Flood in April 1948 reached a stage of about 22 ft, from information by local residents.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	23.2	167	304	798	682	392	149	23.6	7.79	1.59	3.52	0.27	210
1952	.14	208	756	521	245	595	89.7	17.5	20.6	17.1	14.1	1.26	208
1953	.65	1.14	32.4	280	86.6	494	160	270	100	16.0	1.43	0	121
1954	0	0	.28	61.7	24.8	56.6	100	58.3	4.41	4.07	9.93	15.0	28.0
1955	3.09	6.53	72.6	124	610	663	45.6	42.1	35.7	55.7	24.6	1.23	138
1956	2.32	8.85	34.4	110	832	534	208	41.5	136	53.5	25.0	7.75	163
1957	2.71	7.45	205	301	365	132	463	100	61.6	16.5	4.38	.82	136
1958	2.06	173	461	197	241	158	253	342	20.6	235	165	11.4	189
1959	3.38	7.26	40.4	402	254	138	142	21.1	31.7	66.8	13.9	2.47	92.9
1960	6.46	87.4	295	324	392	319	64.0	18.1	262	212	28.9	106	176

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.22	1.57	2.94	7.73	5.97	3.79	1.40	0.23	0.07	0.02	0.03	0.003	23.97
1952	.001	1.95	7.33	5.04	2.22	5.75	.84	.17	.19	.17	.14	.01	23.81
1953	.006	.01	.31	2.71	.76	4.78	1.50	2.62	.94	.16	.01	0	13.81
1954	0	0	.003	.60	.22	.55	.94	.57	.04	.04	.10	.14	5.20
1955	.03	.06	.70	1.20	5.34	6.43	.43	.41	.34	.54	.24	.01	15.73
1956	.02	.08	.33	1.07	7.54	5.17	1.95	.40	1.27	.52	.24	.07	18.66
1957	.03	.07	1.99	2.92	3.17	1.28	4.34	.97	.58	.16	.04	.008	15.56
1958	.02	1.62	4.47	1.91	2.11	1.53	2.37	3.31	.19	2.28	1.60	.11	21.52
1959	.03	.07	.39	3.90	2.22	1.34	1.34	.20	.30	.65	.14	.02	10.60
1960	.06	.82	2.86	3.13	3.55	3.09	.60	.18	2.46	2.05	.28	.99	20.07

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	*288	*32.89
1951	1205	5,560	Jan. 4, 1951	0	210	1.76	23.97	250	28.52
1952	1235	6,480	Mar. 23, 1952	0	208	1.75	23.81	130	14.86
1953	1275	4,430	Mar. 4, 1953	0	121	1.02	13.61	118	13.46
1954	1335	898	Apr. 17, 1954	0	28.0	.235	3.20	34.9	3.99
1955	1385	3,390	Mar. 5, 1955	.4	138	1.16	15.73	135	15.37
1956	1435	3,550	Mar. 8, 1956	1.2	163	1.37	18.66	178	20.32
1957	1505	4,130	Apr. 5, 1957	.2	136	1.14	15.56	172	19.58
1958	1555	3,750	May 5, 1958	.4	169	1.59	21.52	139	15.90
1959	1625	3,990	Jan. 21, 1959	.8	92.9	.781	10.60	121	13.85
1960	1705	3,920	June 24, 1960	1.5	176	1.48	20.07	-	-

* Not previously published; partly estimated on basis of records for Elkhorn Creek near Frankfort.

2885. Cave Creek near Fort Spring, Ky.

Location.--Lat 38°01'15", long 84°35'38", on left bank 3 ft downstream from bridge on Bowman Mill Road, 1.4 miles upstream from South Elkhorn Creek, and 2½ miles southeast of Fort Spring, Fayette County.

Drainage area.--2.53 sq mi, of which about 0.6 sq mi does not contribute directly to surface runoff.

Records available.--October 1952 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 884.26 ft above mean sea level, unadjusted.

Average discharge.--8 years (1952-60), 2.56 cfs.

Extremes.--1952-60: Maximum discharge, about 400 cfs May 13, 1955 (gage height, 3.48 ft); no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	0.040	0.108	0.423	5.38	2.12	9.31	3.41	7.92	0.712	0.402	0.156	0.033	2.52
1954	.006	.057	.081	1.20	.548	.898	3.22	.784	.175	.148	.131	.322	.628
1955	.055	.103	.674	1.64	11.5	13.0	1.36	4.89	1.28	.527	.626	.058	2.92
1956	.10	.15	.28	1.32	15.2	10.5	4.45	.84	.75	1.43	.85	.18	2.94
1957	.153	.235	3.86	6.89	8.06	2.30	9.06	1.51	.548	.140	.106	.037	2.70
1958	.071	2.40	9.48	4.39	5.38	2.57	5.33	5.19	.420	9.22	3.72	.265	4.05
1959	.134	.193	.377	5.92	4.74	2.47	2.32	.531	.538	.115	.089	.048	1.44
1960	.080	.817	5.90	4.80	7.34	6.38	1.54	.427	6.26	3.02	.316	.690	3.28

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	0.02	0.05	0.19	2.45	0.87	4.24	1.50	3.61	0.31	0.18	0.07	0.01	13.50
1954	.003	.02	.04	.55	.23	.41	1.42	.36	.08	.07	.06	.14	3.38
1955	.02	.05	.31	.75	4.72	5.90	.60	2.23	.56	.24	.29	.05	15.70
1956	.05	.06	.13	.60	6.50	4.79	1.96	.29	.33	.65	.39	.08	15.83
1957	.07	.10	1.76	3.14	3.32	1.05	4.00	.69	.24	.08	.05	.02	14.50
1958	.03	1.06	4.32	2.00	2.21	1.17	2.35	2.36	.19	4.20	1.70	.12	21.71
1959	.06	.09	.17	2.70	1.95	1.12	1.02	.24	.24	.05	.04	.02	7.70
1960	.03	.36	2.69	2.19	3.13	2.91	.68	.19	3.64	1.38	.14	.30	17.64

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	1335, 1625	105	Mar. 3, 1953	0	2.52	0.996	13.50	2.48	13.30
1954	1335, 1625	76	Sept. 20, 1954	0	.628	.248	3.38	.686	3.70
1955	1385, 1625	8400	May 13, 1955	.05	2.92	1.15	15.70	2.90	15.56
1956	1435, 1625	65	Mar. 7 or 8, 1956	.05	2.94	1.16	15.83	3.26	17.52
1957	1505, 1625	94	Apr. 4, 1957	0	2.70	1.07	14.50	3.35	17.98
1958	1555, 1625	207	July 24, 1958	0	4.05	1.60	21.71	3.10	16.82
1959	1625	63	Jan. 21, 1959	0	1.44	.569	7.70	1.95	10.46
1960	1705	165	June 23, 1960	0	3.28	1.30	17.64	-	-

a About.

2890. South Elkhorn Creek at Fort Spring, Ky.

Location.--Lat 38°02'35", long 84°37'35", on right bank near upstream side of bridge on U.S. Highway 60 at Fort Spring, Fayette County, 1.5 miles upstream from Shannon Run and 6½ miles west of Lexington.

Drainage area.--24.0 sq mi (revised), of which about 3 sq mi does not contribute directly to surface runoff.

Records available.--March 1950 to September 1960.

Gage.--Water-stage recorder and concrete control after Aug. 11, 1952. Datum of gage is 834.25 ft above mean sea level, datum of 1929. Prior to Aug. 12, 1952, wire-weight gage at same site and datum.

Average discharge.--10 years (1950-60), 29.0 cfs.

Extremes.--1950-60: Maximum discharge, 1,890 cfs June 23, 1960 (gage height, 9.15 ft); no flow for many days in most years.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.78	51.8	64.6	159	149	86.6	29.9	5.90	3.17	0.68	0.53	0.14	44.0
1952	.66	56.9	139	100	55.5	105	12.8	3.92	2.24	1.80	3.06	.08	40.2
1953	.024	.948	7.10	53.3	21.3	92.5	35.5	78.5	5.54	4.27	1.42	.018	25.1
1954	0	.09	.86	18.7	6.48	11.0	30.5	6.33	1.14	1.15	1.26	3.67	6.75
1955	.37	1.26	11.4	20.8	115	127	12.7	33.1	18.9	7.55	6.07	.20	28.9
1956	1.00	2.13	4.40	18.0	135	98.8	40.3	7.47	9.55	17.5	6.06	1.18	28.1
1957	1.25	3.10	39.7	61.5	75.5	24.7	89.0	22.4	9.96	1.52	.87	.62	27.1
1958	1.41	55.7	87.3	40.5	50.0	27.3	51.6	57.1	6.68	97.0	39.3	3.37	41.5
1959	1.55	3.26	7.85	63.7	44.2	22.9	23.6	5.06	2.88	1.47	1.64	.80	14.7
1960	.72	11.6	55.6	45.2	74.2	66.1	17.7	6.55	83.2	30.1	4.53	13.2	33.9

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.18	1.48	3.10	7.63	6.47	4.16	1.39	0.28	0.15	0.03	0.03	0.006	24.91
1952	.03	2.65	6.70	4.82	2.40	5.04	.60	.19	.10	.09	.15	.004	22.77
1953	.001	.04	.34	2.56	.92	4.44	1.56	3.77	.26	.20	.07	.0009	14.17
1954	0	.004	.04	.90	.28	.53	1.42	.30	.05	.06	.06	.17	3.81
1955	.02	.06	.55	1.00	5.01	6.12	.59	1.59	.74	.36	.29	.01	16.34
1956	.05	.10	.21	.86	6.08	4.75	1.87	.36	.44	.84	.29	.06	15.94
1957	.06	.14	1.90	2.96	3.28	1.19	4.14	1.07	.48	.07	.04	.03	15.34
1958	.07	1.66	4.19	1.95	2.17	1.31	2.40	2.74	.31	4.66	1.89	.16	23.51
1959	.07	.15	.37	3.06	1.92	1.10	1.10	.24	.13	.07	.08	.03	8.32
1960	.03	.54	2.67	2.17	3.33	3.18	.82	.31	3.87	1.45	.22	.62	19.21

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	(a)	1,130	Jan. 4, 1951	0	44.0	1.83	24.91	52.2	29.53
1952	(b)	1,280	Mar. 22, 1952	0	40.2	1.68	22.77	24.3	13.77
1953	1275	766	Mar. 4, 1953	0	25.1	1.05	14.17	24.5	14.73
1954	1335	309	Apr. 16, 1954	0	6.75	.281	3.81	7.77	4.40
1955	1385	867	May 13, 1955	0	28.9	1.20	16.34	28.4	16.07
1956	1435	580	Mar. 8, 1956	.5	28.1	1.17	15.91	31.2	17.65
1957	1505	850	Apr. 4, 1957	0	27.1	1.13	15.34	33.9	19.16
1958	1555	740	July 25, 1958	0	41.5	1.73	23.51	32.1	18.18
1959	1625	548	Jan. 21, 1959	0	14.7	.612	8.32	19.4	10.97
1960	1705	1,890	June 23, 1960	0	33.9	1.41	19.21	-	-

a 1205, 1275, 1625.

b 1235, 1275, 1625.

2895. Elkhorn Creek near Frankfort, Ky.

Location.--Lat 38°16'06", long 84°48'53", on downstream side of center pier of Knights Bridge, 4½ miles northeast of city limits of Frankfort, Franklin County, and 7.4 miles downstream from confluence of North and South Elkhorn Creeks.

Drainage area.--473 sq mi (revised), of which about 70 sq mi does not contribute directly to surface runoff.

Records available.--May 1915 to December 1920 (gage heights only, October 1918 to December 1920), December 1939 to September 1960. Published as "at Forks of Elkhorn" 1915-20.

Gage.--Water-stage recorder and crest-stage gage after Sept. 3, 1958. Datum of gage is 540.20 ft above mean sea level, datum of 1929. May 1, 1915, to Dec. 31, 1920, staff gage at site 6.6 miles upstream at different datum. Dec. 28, 1939, to Aug. 14, 1940, wire-weight gage at present site and datum.

Average discharge.--23 years (1915-18, 1940-60), 585 cfs.

Extremes.--1915-18, 1939-60: Maximum discharge, 22,400 cfs Apr. 14, 1948 (gage height, 12.04 ft in gage well, 14.5 ft from outside gage by relation curve); no flow Jan. 7-13, 1940.

Flood of Aug. 2, 1932, reached a stage of about 17.5 ft, from information by local resident. Flood in January 1937* was about 0.3 ft lower.

Remarks.--City of Lexington diverts water from Hickman Creek in Kentucky River basin for municipal water supply, return flow of which enters tributary above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	94.3	428	1,011	2,811	2,467	1,519	618	127	53.0	26.8	26.7	23.3	758
1952	19.3	799	2,477	1,918	1,002	2,224	348	102	96.7	66.1	61.7	17.5	764
1953	11.1	25.7	222	1,096	349	1,952	687	996	174	75.0	24.7	9.21	472
1954	9.28	14.6	25.0	318	123	195	472	166	34.6	21.2	38.4	97.4	126
1955	42.1	34.5	261	485	2,356	2,629	239	222	193	42.7	166	18.2	580
1956	55.6	81.8	169	366	3,158	2,107	690	222	461	249	171	41.7	636
1957	29.6	45.1	672	1,029	1,376	454	1,544	370	335	89.6	31.6	23.0	493
1958	29.2	1,114	2,023	830	893	548	1,050	1,606	123	1,032	680	81.9	836
1959	40.1	50.9	187	1,516	930	528	443	146	159	137	71.5	24.8	350
1960	176	619	1,302	1,309	1,701	1,208	324	104	1,227	1,171	240	612	830

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.23	1.01	2.46	6.85	5.43	3.70	1.46	0.31	0.12	0.07	0.07	0.06	21.77
1952	.05	1.88	6.04	4.68	2.28	5.42	.82	.25	.23	.16	.15	.04	22.00
1953	.03	.06	.54	2.67	.77	4.76	1.62	2.43	.41	.18	.06	.02	13.55
1954	.02	.03	.06	.77	.27	.47	1.11	.40	.08	.05	.09	.23	3.58
1955	.10	.08	.64	1.18	5.19	6.41	.56	.54	.45	1.04	.40	.04	16.63
1956	.09	.19	.41	.89	7.20	5.13	1.63	.54	1.09	.61	.42	.10	18.30
1957	.07	.11	1.64	2.51	3.03	1.11	3.64	.90	.79	.22	.08	.05	14.15
1958	.07	2.63	4.93	2.02	1.97	1.34	2.48	3.91	.29	2.52	1.66	.19	24.01
1959	.10	.12	.46	3.70	2.05	1.29	1.05	.36	.38	.33	.17	.06	10.07
1960	.43	1.46	3.17	3.19	3.88	2.94	.76	.25	2.89	2.85	.59	1.44	23.85

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,051	30.14
1951	1205	13,500	Jan. 15, 1951	11	758	1.60	21.77	907	26.04
1952	1235	14,400	Mar. 23, 1952	6.4	764	1.62	22.00	509	14.66
1953	1275	14,600	Mar. 4, 1953	2.5	472	1.00	13.55	454	13.03
1954	1335	2,960	Apr. 17, 1954	4.3	126	.266	3.58	150	4.29
1955	1385	10,200	Feb. 6, 1955	8.5	580	1.23	16.63	576	16.50
1956	1435	10,000	Feb. 3, 1956	18	636	1.34	18.30	675	19.43
1957	1505	10,000	Apr. 5, 1957	3.8	493	1.04	14.15	695	19.96
1958	1555	15,000	May 5, 1958	11	836	1.77	24.01	594	17.06
1959	1625	13,500	Jan. 22, 1959	4.3	350	.740	10.07	503	14.45
1960	1750	13,000	June 24, 1960	9.0	830	1.75	23.85	-	-

a About.

2900. Flat Creek near Frankfort, Ky.

Location--Lat 38°17'53", long 84°56'32", on left bank at downstream side of bridge on U.S. Highway 421, 0.4 mile downstream from confluence of Goose Creek and Bald Knob Branch and 7 miles northwest of Frankfort, Franklin County.

Drainage area--5.63 sq mi.

Records available--October 1951 to September 1960.

Gage--Water-stage recorder and concrete control with crest-stage gages after Apr. 13, 1956. Datum of gage is 668.65 ft above mean sea level, unadjusted.

Average discharge--9 years (1951-60), 6.21 cfs.

Extremes--1951-60: Maximum discharge, 7,100 cfs July 8, 1955 (gage height, 11.50 ft, from floodmarks), from rating curve extended above 600 cfs on basis of contracted-opening measurement of peak flow; no flow for many days.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	0.13	10.2	23.8	18.3	7.72	28.2	5.15	1.89	0.04	0.19	0.26	0.42	8.07
1953	.10	.84	10.4	10.3	2.68	17.8	7.79	6.80	.07	.27	.10	0	4.81
1954	0	.11	.41	7.27	1.92	2.58	4.00	.96	.24	.17	.12	.75	1.55
1955	1.70	1.10	9.16	3.35	33.8	24.2	8.73	7.85	6.92	26.8	.08	.04	10.2
1956	.25	1.21	1.83	7.25	32.1	18.7	7.20	2.90	10.5	.26	4.71	.38	7.17
1957	.10	.33	6.37	10.2	12.9	4.60	25.1	11.4	6.13	.07	.006	.08	6.38
1958	1.20	25.8	20.8	8.39	5.30	6.15	18.7	12.1	.53	5.43	.96	.35	8.79
1959	.03	.46	1.78	15.5	3.76	2.46	2.44	.54	.03	.16	.07	.17	2.28
1960	.75	9.46	9.83	7.21	16.2	7.80	2.42	2.73	15.0	6.46	1.24	.96	6.62

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	0.06	2.02	4.88	3.75	1.48	5.77	1.02	0.39	0.009	0.04	0.05	0.08	19.52
1953	.02	.17	2.13	2.12	.50	3.65	1.54	1.39	.01	.05	.02	0	11.61
1954	0	.02	.08	1.49	.35	.53	.79	.20	.05	.04	.03	.15	3.73
1955	.35	.22	1.88	.69	6.24	4.95	1.73	1.61	1.37	5.49	.02	.008	24.56
1956	.05	.24	.38	1.49	6.15	3.83	1.43	.59	2.09	.05	.97	.07	17.34
1957	.02	.07	1.30	2.09	2.39	.94	4.98	2.34	1.22	1.01	.001	.02	15.38
1958	.25	5.10	4.23	1.72	.98	1.26	3.70	2.48	.11	1.11	.19	.07	21.20
1959	.006	.09	.37	3.17	.69	.50	.48	.11	.005	.03	.02	.03	5.50
1960	.15	1.88	2.01	1.48	3.11	1.60	.48	.56	2.97	1.32	.25	.19	16.00

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1335	3,460	Mar. 22, 1952	0	8.07	1.43	19.52	6.16	14.91
1953	1335	1,940	Mar. 3, 1953	0	4.81	.854	11.61	3.90	9.39
1954	1335	542	Apr. 16, 1954	0	1.55	.275	3.73	2.51	6.08
1955	1385	7,100	July 8, 1955	0	10.2	1.61	24.56	9.44	22.78
1956	1435	2,120	June 20, 1956	0	7.17	1.27	17.34	7.47	18.06
1957	1505	2,460	June 28, 1957	0	6.38	1.13	15.38	9.78	23.57
1958	1555	2,490	May 4, 1958	0	8.79	1.56	21.20	5.01	12.09
1959	1625	2,150	Jan. 21, 1959	0	2.28	.465	5.50	3.77	9.08
1960	1705	2,240	June 23, 1960	0	6.62	1.18	16.00	-	-

2905. Kentucky River at lock 2, at Lockport, Ky.

Location.--Lat 38°26'20", long 84°57'48", on left bank at lock 2 at Lockport, Henry County, 0.1 mile downstream from Sixmile Creek and at mile 31.0.

Drainage area.--6,180 sq mi (revised), of which about 200 sq mi does not contribute directly to surface runoff.

Records available.--October 1925 to September 1960. Monthly discharge only for some periods, published in WSP 1305. Monthly discharge only for June to September 1930, published in WSP 1305; figures of daily discharge published in WSP 698 are unreliable.

Gage.--Staff gage. Datum of gage is 433.36 ft above mean sea level, datum of 1929. Auxiliary staff gage read twice daily at lock 3, 11.0 miles upstream.

Average discharge.--35 years (1925-60), 8,127 cfs (unadjusted).

Extremes.--1925-60: Maximum discharge, 123,000 cfs Jan. 26, 1937; maximum gage height, 56.85 ft Jan. 24, 1937 (backwater from Ohio River); minimum discharge not determined.

Remarks.--Flow regulated by Herrington Lake and by hydroelectric plant at lock 7.

Correction.--In WSP 1305 and 1385, the water and calendar year means for 1929 are listed in error; they should be 9,670 and 10,000 cfs, respectively.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,101	11,200	16,560	22,110	36,680	19,540	12,100	5,004	1,663	897	718	838	10,630
1952	464	11,530	27,820	26,310	15,070	29,220	8,884	7,951	3,598	803	826	530	10,930
1953	340	1,536	5,256	16,060	9,042	16,590	8,587	15,680	2,260	1,399	557	325	6,484
1954	225	340	863	5,995	1,524	7,609	6,126	4,414	1,076	1,148	621	1,264	2,597
1955	736	819	5,966	8,479	23,640	52,260	6,263	3,654	2,006	5,543	1,352	387	9,218
1956	498	788	1,268	3,365	43,890	27,300	21,640	4,567	3,460	4,856	1,725	622	9,342
1957	438	830	13,980	19,570	34,370	9,460	21,770	4,632	3,181	1,026	482	881	9,039
1958	870	9,438	18,010	8,602	13,650	10,190	23,080	23,540	2,766	11,790	9,183	1,386	11,040
1959	570	1,028	2,745	14,990	11,740	5,862	13,430	3,437	2,402	870	1,061	494	4,835
1960	940	4,222	11,060	10,860	18,160	16,750	6,231	2,994	11,130	10,690	2,973	2,983	8,216

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.36	2.03	2.99	4.22	6.30	3.61	2.17	0.91	0.26	0.15	0.12	0.14	23.26
1952	.07	2.17	5.22	4.95	2.55	5.53	1.15	1.49	.64	.13	.14	.08	24.12
1953	.04	.26	.93	3.07	1.54	3.14	1.58	2.96	.39	.26	.07	.03	14.27
1954	.03	.04	.06	1.17	.23	1.43	1.15	.83	.18	.21	.11	.20	5.66
1955	.11	.13	1.15	1.58	4.08	9.80	1.06	.67	.39	1.00	.20	.05	20.22
1956	.08	.14	.23	.71	7.80	5.03	3.90	.81	.61	.93	.28	.10	20.62
1957	.07	.13	2.61	3.75	5.80	1.78	3.94	.86	.57	.14	.06	.15	19.86
1958	.11	1.76	3.58	1.53	2.31	1.98	4.21	4.31	.49	2.23	1.69	.21	24.21
1959	.08	.16	.50	2.86	1.98	1.12	2.42	.64	.42	.16	.19	.07	10.60
1960	.16	.75	2.05	2.04	3.23	3.15	1.11	.56	2.06	1.95	.54	.51	18.11

a Adjusted for change in contents in Herrington Lake.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Observed			Adjusted a/			Observed		Adjusted a/	
		Momentary maximum		Minimum	Mean		Mean	Mean		Mean	
		Discharge	Date	day		Per square mile	Runoff in inches				Runoff in inches
1950	-	-	-	-	-	-	-	13,770	13,750	30.21	-
1951	1205	69,700	Feb. 6, 1951	260	10,630	10,590	1.71	23.26	11,460	11,530	25.34
1952	1235	82,500	Mar. 26, 1952	320	10,930	10,950	1.77	24.12	8,209	8,127	17.89
1953	1275	62,400	Mar. 4, 1953	260	6,464	6,498	1.05	14.27	5,987	5,993	13.17
1954	1335	19,600	Mar. 5, 1954	170	2,597	2,576	.417	5.66	3,132	3,155	6.92
1955	1385	93,000	Mar. 6, 1955	320	9,218	9,211	1.49	20.22	8,795	8,780	19.28
1956	1435	78,900	Feb. 19, 1956	285	9,342	9,365	1.52	20.62	10,420	10,440	22.98
1957	1505	86,300	Feb. 4, 1957	214	9,039	9,036	1.45	19.86	10,130	10,160	22.30
1958	1555	66,100	May 11, 1958	364	11,040	11,020	1.78	24.21	9,028	8,972	19.70
1959	1625	58,100	Jan. 22, 1959	210	4,835	4,828	.781	10.60	5,835	5,835	12.82
1960	1705	62,000	June 24, 1960	200	8,216	8,226	1.33	18.11	-	-	-

a Adjusted for change in contents in Herrington Lake.

2910. Big Eagle Creek at Sadieville, Ky.

Location.--Lat 38°23'22", long 84°32'36", on left bank 15 ft upstream from Spoon Branch, a quarter of a mile west of Sadieville, Scott County, and 5.8 miles upstream from Little Eagle Creek. Records include flow of Spoon Branch.

Drainage area.--42.9 sq mi (revised), includes that of Spoon Branch.

Records available.--June 1941 to September 1960. Prior to October 1956, published as Eagle Creek at Sadieville.

Gage.--Water-stage recorder and concrete control. Datum of gage is 757.18 ft above mean sea level, unadjusted.

Average discharge.--19 years (1941-60), 59.6 cfs.

Extremes.--1941-60: Maximum discharge, 9,870 cfs (revised) Mar. 19, 1943 (gage height, 21.96 ft, from floodmark), from rating curve extended above 4,100 cfs by logarithmic plotting; no flow at times each year.

Flood in August 1932 reached a stage of about 22 ft, from floodmarks.

Revisions.--The momentary maximum discharges for the water years 1943, 1945, 1948, and 1950 were revised in WSP 1505; the following revised figures supersede those published in WSP 1305.

Water year	Date	Discharge
1943	Mar. 19, 1943	9,870
1945	Mar. 6, 1945	6,860
1948	Feb. 13, 1948	7,110
1950	June 19, 1950	8,100

Remarks.--Occasional diversion from gage pool for water supply of Sadieville; some return from this diversion.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13.4	71.1	77.2	280	205	144	62.7	12.1	0.31	0.01	0	0	71.3
1952	0	118	199	169	77.3	213	32.3	9.92	8.66	.28	.33	0.35	69.3
1953	0	.23	56.3	88.3	15.5	171	51.0	56.1	16.1	.62	0	0	38.3
1954	0	0	.11	42.7	14.6	24.3	43.8	11.3	41.1	.04	1.76	13.2	16.0
1955	9.92	4.75	51.9	23.7	198	151	25.2	14.5	24.2	70.8	50.9	4.39	51.6
1956	11.9	35.5	26.4	40.2	249	154	44.5	26.0	80.8	2.43	6.78	6.32	56.1
1957	.90	3.36	72.9	79.0	112	33.8	187	65.6	67.0	29.0	1.06	.22	53.8
1958	2.55	117	164	63.4	53.2	41.3	75.4	133	19.6	12.1	50.5	6.42	61.6
1959	.70	9.86	37.3	160	54.8	41.4	40.5	23.4	15.8	15.9	.54	.27	33.4
1960	74.2	101	95.5	86.6	137	69.9	22.9	15.9	76.4	124	1.01	16.2	68.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.36	1.85	2.08	7.52	4.93	3.67	1.63	0.33	0.008	0.0003	0	0	22.58
1952	0	3.07	5.35	4.54	1.94	5.73	.84	.27	.23	.008	.009	.009	22.00
1953	0	.006	1.51	2.37	.38	4.60	1.33	1.51	.42	.02	0	0	12.15
1954	0	0	.003	1.15	.35	.65	1.14	.30	1.07	.001	.05	.34	5.05
1955	.27	.12	1.39	.64	4.82	4.05	.65	.39	.63	1.90	1.37	.11	16.34
1956	.32	.92	.71	1.06	6.25	4.15	1.16	.70	2.12	.07	.18	.16	17.82
1957	.02	.09	1.96	2.12	2.72	.91	4.88	1.76	1.74	.78	.03	.006	17.02
1958	.07	3.04	4.40	1.70	1.29	1.11	1.96	3.57	.51	.33	1.36	.17	19.51
1959	.02	.26	1.00	4.31	1.33	1.11	1.05	.63	.41	.43	.01	.007	10.57
1960	1.99	2.62	2.57	2.33	3.44	1.88	.59	.43	1.99	3.35	.03	.42	21.64

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	102	32.31
1951	1205	3,550	Jan. 14, 1951	0	71.3	1.66	22.58	84.4	26.71
1952	1235	4,420	Mar. 22, 1952	0	69.3	1.62	22.00	47.6	15.10
1953	1275	5,310	Mar. 3, 1953	0	38.3	.893	12.15	33.6	10.64
1954	1355	3,080	June 13, 1954	0	16.0	.373	5.05	21.6	6.83
1955	1385	3,370	July 18, 1955	0	51.6	1.20	16.34	52.2	16.51
1956	1435	3,120	Feb. 2, 1956	0	56.1	1.31	17.82	56.5	17.95
1957	1505	5,280	Apr. 4, 1957	0	53.8	1.25	17.02	71.0	22.46
1958	1555	4,570	May 4, 1958	0	61.6	1.44	19.51	41.9	13.28
1959	1625	3,760	Jan. 20, 1959	0	33.4	.779	10.57	52.1	16.47
1960	1705	5,090	July 1, 1960	0	68.2	1.59	21.64	-	-

2915. Eagle Creek at Glencoe, Ky.

Location.--Lat 36°42'22", long 84°49'32", near center of span on upstream side of bridge on State Highway 16 at Gallatin-Owen County line, half a mile south of Glencoe, Gallatin County, 5.9 miles downstream from Tenmile Creek, and 22 miles upstream from mouth.

Drainage area.--437 sq mi (revised).

Records available.--April 1915 to September 1918, October 1918 to December 1920 (gage heights only), May 1928 to September 1931, June 1938 to September 1960. Monthly discharge only for May 1915, June 1938, published in WSP 1305.

Gage.--Wire-weight gage. Datum of gage is 508.36 ft above mean sea level, unadjusted. Prior to Oct. 1, 1950, staff, chain, or wire-weight gages at bridge 600 ft upstream at same datum.

Average discharge.--28 years (1915-18, 1928-31, 1938-60), 514 cfs.

Extremes.--1915-20, 1928-31, 1938-60: Maximum discharge, 32,900 cfs Mar. 19, 1943 (gage height, 23.1 ft, from floodmark, present site); no flow at times. Flood in 1913 reached a stage of about 22.5 ft, present site.

Remarks.--Records of water temperatures for the period October 1949 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	63.6	674	669	2,288	1,721	1,350	630	182	16.7	2.05	0.21	23.0	629
1952	19.8	983	1,874	1,204	778	1,617	564	96.2	121	44.5	20.1	10.7	612
1953	4.85	40.0	651	1,039	153	1,169	586	509	132	36.2	5.19	0	364
1954	0	0	1.13	401	44.6	306	318	85.5	94.9	9.60	37.2	98.5	117
1955	124	60.0	647	344	2,343	2,007	472	214	205	349	122	34.6	567
1956	424	502	219	665	3,295	1,470	662	711	840	240	169	746	818
1957	97.3	35.7	657	796	1,132	592	1,620	836	835	1,016	10	10.9	632
1958	22.7	1,390	1,322	825	606	450	1,317	1,190	333	224	292	191	679
1959	16.8	166	169	1,815	1,151	476	191	176	77.4	126	12.0	20.2	363
1960	198	833	913	631	1,059	548	137	141	1,225	890	4.51	26.4	547

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.17	1.72	1.78	6.04	4.10	3.56	1.61	0.48	0.04	0.005	0.0005	0.06	19.55
1952	.05	2.51	4.94	3.18	1.92	4.27	1.44	.25	.31	.12	.05	.03	19.07
1953	.01	.10	1.72	2.74	.36	3.08	1.50	1.34	.34	.10	.01	0	11.30
1954	0	0	.003	1.06	.11	.81	.81	.23	.24	.03	.10	.25	3.64
1955	.33	.15	1.71	.91	5.58	5.30	1.21	.56	.52	.92	.32	.09	17.60
1956	1.12	1.28	.58	1.75	8.13	3.88	1.69	1.98	2.15	.63	.45	1.95	25.49
1957	.26	.09	1.73	2.10	2.70	1.56	4.14	2.20	2.13	2.68	.03	.03	19.65
1958	.06	3.55	3.49	2.18	1.44	1.19	3.36	3.14	.85	.59	.77	.49	21.11
1959	.04	.42	.45	4.79	2.74	1.26	.49	.47	.20	.33	.03	.05	11.27
1960	.52	2.13	2.41	1.67	2.61	1.44	.35	.37	3.13	2.35	.01	.07	17.06

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	845	26.25
1951	1205	17,300	Jan. 14, 1951	0	629	1.44	19.55	753	23.40
1952	1235	21,500	Mar. 22, 1952	.4	612	1.40	19.07	430	13.40
1953	1275	16,000	Mar. 3, 1953	0	364	.833	11.30	305	9.47
1954	1335	6,140	Jan. 21, 1954	0	117	.268	3.64	187	5.83
1955	1385	20,700	Feb. 27, 1955	0	567	1.30	17.60	592	18.39
1956	1435	26,000	Feb. 25, 1956	2.2	818	1.87	25.49	789	24.59
1957	1505	31,400	July 5, 1957	-	832	1.45	19.65	794	24.67
1958	1555	22,000	May 4, 1958	.4	679	1.55	21.11	480	14.92
1959	1625	22,900	Jan. 21, 1959	0	363	.831	11.27	496	15.42
1960	1705	26,500	June 23, 1960	0	547	1.25	17.06	-	-

2925. South Fork Beargrass Creek at Louisville, Ky.

Location (revised).--Lat 38°12'39", long 85°42'07", on upstream side of right abutment of Trevillian Way Bridge at Louisville, Jefferson County, 4.9 miles upstream from confluence with Middle Fork and 6.4 miles upstream from Ohio River.

Drainage area.--17.2 sq mi (revised).

Records available.--October 1939 to September 1940, August 1944 to September 1953, October 1954 to September 1960. Monthly discharge only for October to December 1939, published in WSP 1305.

Gage.--Water-stage recorder and concrete control. Datum of gage is 448.60 ft above mean sea level, Louisville city datum, adjustment of 1912. Prior to Oct. 29, 1953, at datum 2.00 ft higher.

Average discharge.--16 years (1939-40, 1944-53, 1954-60), 20.2 cfs.

Extremes.--1939-40, 1944-53, 1954-60: Maximum discharge, 2,220 cfs June 23, 1960 (gage height, 11.82 ft); maximum gage height, 13.62 ft Mar. 6, 1945, present datum; no flow at times.

Flood of Mar. 19, 1943, reached a stage of 15.1 ft, present datum, from information furnished by Corps of Engineers.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.85	20.7	48.2	81.2	66.9	66.6	31.3	10.5	4.99	2.24	0.74	0.94	27.8
1952	2.85	12.0	66.0	67.4	36.8	61.4	14.9	6.41	8.47	1.40	.23	.10	23.2
1953	.30	.84	8.47	28.0	8.52	47.1	25.3	27.8	3.14	2.41	.28	0	12.8
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	1.76	1.30	6.72	13.2	52.3	90.8	24.4	17.8	12.7	21.6	3.95	1.43	20.5
1956	10.4	13.6	6.20	10.2	104	59.1	10.4	11.4	2.02	.89	3.32	8.10	19.6
1957	1.84	1.10	4.48	9.43	22.8	11.8	46.4	26.0	16.8	11.1	1.12	2.14	12.8
1958	2.65	39.5	44.6	19.4	19.9	23.5	34.4	21.8	5.16	16.8	11.4	8.24	20.6
1959	1.85	2.60	6.02	47.3	18.9	15.1	4.48	9.32	1.11	1.84	5.07	.63	9.35
1960	4.41	10.9	19.7	18.8	39.8	16.6	6.43	5.62	65.1	22.2	2.69	1.38	17.6

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.19	1.34	3.10	5.44	4.05	4.46	2.03	0.71	0.32	0.15	0.05	0.06	21.90
1952	.19	.78	4.42	4.52	2.31	4.11	.96	.43	.55	.09	.02	.007	18.39
1953	.02	.05	.57	1.88	.52	3.16	1.64	1.86	.20	.16	.02	0	10.08
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	.12	.08	.45	.89	3.17	6.08	1.58	1.19	.82	1.45	.27	.09	16.19
1956	.69	.88	.42	.68	6.54	3.96	.67	.76	.13	.06	.22	.53	15.54
1957	.12	.07	.30	.63	1.58	.79	3.01	1.75	1.09	.74	.08	.14	10.10
1958	.18	2.56	2.99	1.30	1.20	1.58	2.23	1.46	.33	1.13	.76	.53	16.25
1959	.12	.17	.40	3.17	1.14	.88	.29	.62	.07	.12	.34	.04	7.36
1960	.30	.71	1.32	1.26	2.49	1.11	.42	.38	4.22	1.49	.18	.09	13.97

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	44.8	35.39
1951	1205	776	Jan. 14, 1951	0	27.8	1.62	21.90	28.7	22.66
1952	1235	890	Jan. 4, 1952	0	23.2	1.35	18.39	17.2	13.64
1953	1275	424	Mar. 3, 1953	0	12.8	.744	10.08	-	-
1954	-	#840	Sept. 20, 1954	-	-	-	-	-	-
1955	1385	497	Mar. 21, 1955	0	20.5	1.19	16.19	22.2	17.53
1956	1435	853	Feb. 15, 1956	.5	19.6	1.14	15.54	17.8	14.04
1957	1505	554	Apr. 4, 1957	.5	12.8	.744	10.10	19.4	15.34
1958	1555	600	Nov. 18, 1957	.5	20.6	1.20	16.25	14.2	11.21
1959	1625	1,180	Jan. 21, 1959	0	9.35	.544	7.36	11.4	9.00
1960	1705	2,220	June 23, 1960	0	17.6	1.02	13.97	-	-

* Not previously published.

2930. Middle Fork Beargrass Creek at Cannons Lane, at Louisville, Ky.

Location (revised).--Lat 38°14'14", long 85°39'52", on right bank at downstream side of bridge on Cannons Lane, at Louisville, Jefferson County, 1.7 miles downstream from Weicher Creek, 5.7 miles upstream from confluence with South Fork, and 7.4 miles upstream from Ohio River.

Drainage area.--18.9 sq mi (revised), of which about 0.5 sq mi does not contribute directly to surface runoff.

Records available.--August 1944 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 477.70 ft above mean sea level, Louisville city datum, 1912 adjustment.

Average discharge.--16 years (1944-60), 23.0 cfs.

Extremes.--1944-60: Maximum discharge, 3,300 cfs June 23, 1960 (gage height, 5.83 ft); no flow at times.

Flood in February 1943 reached a stage of 8.1 ft, from information by local residents.

Revisions.--Maximum discharges for the water years 1945, 1948, and 1950 were revised in WSP 1625; the following revised figures supersede those published in WSP 1305.

Water year	Date	Discharge
1945	Mar. 6, 1945	1,810
1948	Apr. 12, 1948	1,750
1950	Aug. 29, 1950	2,120

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3.92	35.3	49.5	89.4	72.8	69.6	33.7	9.43	1.88	2.19	1.35	1.44	30.7
1952	4.35	14.3	76.7	73.5	36.8	64.8	14.3	6.51	8.08	1.63	.80	.70	25.3
1953	.78	1.67	8.50	30.2	9.24	45.7	26.9	34.8	4.87	4.84	.63	.03	14.1
1954	.15	.71	1.90	6.28	3.44	4.20	5.27	3.04	.93	.37	1.29	17.8	3.76
1955	2.36	2.01	8.60	15.2	66.9	88.6	21.0	12.4	9.13	18.3	3.09	2.79	20.6
1956	15.4	17.0	8.42	12.1	119	59.6	12.0	13.8	5.42	3.37	5.06	5.30	22.6
1957	2.83	2.33	7.87	12.7	49.5	20.8	61.3	34.7	27.9	16.3	2.86	2.76	19.9
1958	3.10	52.6	64.7	27.4	23.9	29.8	45.7	24.5	9.31	34.7	32.4	12.1	30.1
1959	5.55	6.27	11.5	60.5	32.8	23.4	11.4	12.7	3.93	3.46	7.30	1.95	15.0
1960	6.44	17.3	32.1	31.4	53.3	25.3	13.9	11.3	72.5	40.9	4.52	2.75	25.8

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.24	2.08	3.02	5.45	4.01	4.25	1.99	0.58	0.11	0.13	0.08	0.09	22.03
1952	.27	.84	4.68	4.49	2.10	3.96	.84	.40	.48	.10	.05	.04	18.25
1953	.05	.10	.52	1.84	.51	2.79	1.59	2.13	.29	.30	.04	.002	10.16
1954	.009	.04	.12	.38	.19	.26	.31	.19	.06	.02	.08	1.05	2.71
1955	.14	.12	.52	.93	3.68	5.41	1.24	.75	.54	1.12	.19	.16	14.80
1956	.94	1.00	.51	.74	6.77	3.63	.71	.84	.32	.21	.31	.31	16.29
1957	.17	.14	.48	.77	2.73	1.27	3.62	2.12	1.65	.99	.17	.16	14.27
1958	.19	3.10	3.95	1.67	1.32	1.82	2.70	1.49	.55	2.12	1.98	.72	21.61
1959	.34	.37	.70	3.69	1.80	1.42	.67	.77	.23	.21	.45	.11	10.76
1960	.39	1.02	1.96	1.91	3.04	1.54	.82	.69	4.28	2.50	.28	.16	18.59

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	50.4	36.24
1951	1205, 1625	1,220	Jan. 14, 1951	0.1	30.7	1.62	22.03	31.3	22.48
1952	1235, 1625	1,290	Jan. 4, 1952	0	25.3	1.34	18.25	18.2	13.13
1953	1275	768	Mar. 3, 1953	0	14.1	.746	10.16	13.4	9.66
1954	1335, 1625	1,570	Sept. 20, 1954	0	3.76	.199	2.71	4.62	3.32
1955	1365, 1625	1,240	July 9, 1955	.6	20.6	1.09	14.80	22.9	16.47
1956	1435	1,060	Feb. 15, 1956	1.2	22.6	1.20	16.29	20.3	14.63
1957	1505, 1625	1,490	Feb. 9, 1957	1.0	19.9	1.05	14.27	28.9	20.72
1958	1555	884	Nov. 18, 1957	1.2	30.1	1.59	21.61	21.9	15.78
1959	1625	1,320	Jan. 21, 1959	.8	15.0	.794	10.76	17.7	12.72
1960	1705	3,300	June 23, 1960	.9	25.8	1.37	18.59	-	-

2940. Silver Creek near Sellersburg, Ind.

Location.--Lat 38°22'15", long 85°43'35", in SW 1/4 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 1960.

Gage.--Wire-weight gage read twice daily. Altitude of gage is 430 ft (from topographic map).

Average discharge.--6 years (1954-60), 228 cfs.

Extremes.--1954-60: 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 measurement of peak flow, at site 5.2 miles upstream (drainage area, 164 sq mi), adjusted to gage site; no flow at times each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	14.7	8.64	105	137	873	684	288	100	40.3	86.6	2.73	5.88	179
1956	70.9	163	37.4	120	1,323	422	206	128	65.4	6.99	7.26	6.30	208
1957	6.05	1.44	18.6	146	482	159	805	806	230	48.1	27.0	.24	225
1958	3.04	498	860	270	145	301	362	275	52.6	274	174	99.1	278
1959	28.8	75.9	157	1,150	516	306	144	145	18.9	2.75	12.8	2.28	212
1960	11.8	53.7	263	285	443	328	122	43.9	1,337	283	10.9	3.46	263

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	0.09	0.05	0.64	0.84	4.83	4.20	1.71	0.61	0.24	0.53	0.02	0.03	15.79
1956	.43	.97	.23	.74	7.59	2.58	1.23	.79	.39	.04	.04	.04	15.07
1957	.04	.01	.11	.90	2.67	.98	4.78	4.95	1.36	.30	.17	.001	16.27
1958	.02	2.96	5.27	1.66	.80	1.84	2.15	1.68	.51	1.68	1.07	.59	20.03
1959	.18	.45	.96	7.06	2.85	1.88	.85	.89	.11	.02	.98	.01	15.34
1960	.07	.32	1.61	1.75	2.54	2.01	.72	.27	7.93	1.74	.07	.02	19.05

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-
1955	1385, 1705	4,860	Feb. 27, 1955	0	179	0.952	13.79	190	13.69
1956	1435, 1705	6,600	Feb. 26, 1956	0	208	1.11	15.07	188	13.60
1957	1505, 1705	8,520	May 23, 1957	0	225	1.20	16.27	337	24.36
1958	1555, 1705	6,000	Nov. 19, 1957	0	278	1.48	20.03	165	13.37
1959	1625, 1705	19,600	Jan. 22, 1959	0	212	1.13	15.34	218	15.75
1960	1705	16,400	June 24, 1960	0	263	1.40	19.05	-	-

2945. Ohio River at Louisville, Ky.

Location.--Lat 38°16'40", long 85°47'39", on left bank at downstream end of lock wall in lower pool at lock 41, at Louisville, Jefferson County, 5.0 miles downstream from Bear-grass Creek and at mile 607.0.

Drainage area.--91,170 sq mi, approximately.

Records available.--January 1928 to September 1960. Prior to October 1935 monthly discharge only, published in WSP 1305. Gage-height records collected in this vicinity since 1871 are contained in reports of U.S. Weather Bureau.

Gage.--Normal pool (lower) staff gage. Datum of gage is 374.00 ft above mean sea level, Ohio River datum. Prior to Oct. 1, 1939, and Oct. 1, 1943, to Sept. 30, 1946, various combinations of gages near Louisville were used. Oct. 1, 1939, to Sept. 30, 1943, water-stage recorders at Louisville and Kosmosdale, 4 and 20.1 miles, respectively, below dam 41 were used to determine discharge. Since Oct. 1, 1952, upper staff gage at dam 43, 26.4 miles downstream has been used as an auxiliary gage.

Average discharge.--32 years (1928-60), 113,600 cfs.

Extremes.--1928-60: Maximum discharge, 1,110,000 cfs Jan. 26, 27, 1937; maximum gage height, 85.44 ft Jan. 27, 1937; minimum daily discharge, 2,100 cfs Aug. 12, 1930.

Remarks.--Low and medium flow affected by operation of powerplant and navigation dams. Records of chemical analyses for the period October 1952 to September 1953 are published in report of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	41,320	131,900	266,000	286,000	357,200	283,500	242,800	120,200	91,670	49,710	15,980	18,200	157,500
1952	12,350	64,680	212,800	315,500	288,600	272,600	176,000	158,000	57,630	24,320	21,260	15,030	134,500
1953	9,758	19,560	59,120	150,300	146,500	191,600	160,300	167,400	77,610	31,500	18,520	10,290	86,610
1954	7,316	9,161	23,150	62,730	61,000	137,100	143,500	99,860	43,500	40,530	40,370	20,480	57,390
1955	85,720	45,800	91,870	154,000	230,200	481,900	122,400	82,540	43,740	38,340	27,060	11,740	117,700
1956	32,960	67,280	45,150	31,260	376,500	345,600	265,900	160,200	136,100	94,150	102,200	52,200	141,300
1957	27,550	34,500	143,500	159,900	303,000	136,400	290,800	104,700	57,690	55,720	12,890	17,850	110,600
1958	19,500	67,600	187,600	138,300	122,300	154,300	224,300	301,900	95,220	163,400	151,300	45,490	139,400
1959	27,000	41,500	57,160	213,800	242,600	154,300	171,200	113,900	48,040	29,900	24,810	14,500	94,480
1960	57,900	64,800	157,000	173,700	192,100	126,800	202,900	99,980	88,930	55,840	27,740	24,830	104,000

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.52	1.61	3.36	3.62	4.08	3.59	2.97	1.52	1.12	0.63	0.20	0.22	23.44
1952	.16	.79	2.69	3.96	3.41	3.45	2.15	2.00	.71	.31	.27	.18	20.08
1953	.12	.24	.75	1.90	1.67	2.42	1.98	2.12	.95	.40	.23	.13	12.89
1954	.09	.11	.29	.79	.70	1.73	1.76	1.26	.53	.51	.51	.25	8.53
1955	1.08	.56	1.16	1.95	2.63	6.09	1.50	1.04	.54	.48	.34	.14	17.51
1956	.42	.82	.57	.40	4.45	4.37	3.25	2.03	1.66	1.19	1.29	.64	21.09
1957	.35	.42	1.81	2.02	3.46	1.72	3.56	1.32	.71	.70	.16	.22	16.45
1958	.25	.83	2.37	1.72	1.40	1.95	2.75	3.82	1.14	2.07	1.91	.56	20.77
1959	.34	.51	.72	2.78	2.77	1.95	2.10	1.44	.59	.38	.31	.18	14.07
1960	.48	.79	1.98	2.20	2.27	1.60	2.48	1.26	1.09	.71	.55	.30	15.51

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	177,300	26.39
1951	1205	526,000	Dec. 10, 1950	6,000	157,500	1.73	23.44	145,000	21.59
1952	1235	560,000	Feb. 3, 1952	9,000	134,500	1.48	20.08	117,600	17.55
1953	1275	314,000	Mar. 7, 1953	6,070	86,610	.950	12.89	82,490	12.27
1954	1335	237,000	Mar. 7, 1954	4,220	57,390	.629	8.53	72,900	10.84
1955	1385	608,000	Mar. 10, 1955	7,130	117,700	1.29	17.51	111,000	16.50
1956	1435	524,000	Mar. 19, 1956	10,900	141,300	1.55	21.09	146,500	21.86
1957	1505	493,000	Apr. 12, 1957	5,650	110,600	1.21	16.45	116,400	17.32
1958	1555	557,000	May 12, 1958	9,630	139,400	1.53	20.77	126,800	18.89
1959	1625	519,000	Jan. 26, 1959	-	94,480	1.04	14.07	105,800	15.75
1960	1705	362,000	Apr. 6, 1960	-	104,000	1.14	15.51	-	-

2950. Salt River near Harrodsburg, Ky.

Location.--Lat 37°45'26", long 84°52'23", near center of span on downstream side of bridge on State Highway 152, 1½ miles west of Harrodsburg, Mercer County, and 11 miles downstream from Quirks Run.

Drainage area.--41.4 sq mi, of which about 2 sq mi does not contribute directly to surface runoff.

Records available.--September 1952 to September 1960.

Gage.--Wire-weight gage, and crest-stage gage after Aug. 24, 1959. Datum of gage is 810.60 ft above mean sea level, unadjusted. Since July 21, 1958, supplementary gage 220 ft upstream.

Average discharge.--8 years (1952-60), 47.7 cfs.

Extremes.--1952-60: Maximum discharge, 4,190 cfs Nov. 18, 1957 (gage height, 15.1 ft, from floodmark); no flow for many days during most years.

Remarks.--Prior to July 1958 some regulation and diversion above station by city of Harrodsburg for municipal water supply. Figures of daily discharge during some periods of low flow prior to July 1958 include small diversions from Kentucky River for operation of filter beds of municipal water-supply plant above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	0	0.03	18.5	110	30.0	139	58.6	134	1.57	2.87	1.72	0	41.7
1954	0	0	0	54.4	4.53	18.3	55.4	12.9	1.51	.04	3.20	2.49	12.8
1955	1.37	13.6	60.2	36.3	283	257	4.43	20.8	59.6	13.9	.90	2.07	61.4
1956	.52	7.48	6.42	44.3	285	160	85.3	3.66	2.37	42.3	4.19	.76	52.6
1957	.13	.12	124	209	147	53.8	198	68.6	22.3	2.16	.32	.90	68.5
1958	.66	132	150	89.3	61.9	58.2	72.4	87.3	21.2	138	36.7	4.13	71.2
1959	2.91	6.78	20.7	162	59.7	33.3	24.9	4.41	1.30	4.38	1.90	.28	26.8
1960	1.16	19.5	82.3	59.7	124	86.1	16.2	5.70	116	22.0	3.64	24.8	46.3

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	0	0.0008	0.52	3.07	0.75	3.87	1.58	3.73	0.04	0.08	0.05	0	13.69
1954	†0	†0	†0	†1.52	†.11	†.51	†1.49	†.36	†.04	†.001	†.09	†.07	4.19
1955	.04	.37	1.68	1.01	7.11	7.16	.12	.58	1.61	.39	.03	.06	20.16
1956	.01	.20	.18	1.23	7.43	4.46	2.30	.10	.06	1.18	.12	.02	17.29
1957	.004	.003	3.46	5.83	3.71	1.50	5.34	1.91	.60	.06	.009	.02	22.45
1958	.02	3.55	4.18	2.49	1.56	1.62	1.95	2.43	.57	3.85	1.02	.11	23.35
1959	.08	.18	.58	4.52	1.50	.93	.67	.12	.03	.12	.05	.008	8.79
1960	.005	.53	2.29	1.66	3.23	2.40	.44	.16	3.13	.61	.10	.67	15.22

† Not previously published.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-
1953	1275	2,960	May 19, 1953	0	41.7	1.01	13.69	40.2
1954	1335	1,540	Apr. 16, 1954	0	12.8	.309	4.19	19.1
1955	1385	3,040	Feb. 28, 1955	0	61.4	1.48	20.16	56.3
1956	1435	4,140	July 24, 1956	0	52.6	1.27	17.29	62.0
1957	1505	4,140	Apr. 4, 1957	0	68.5	1.65	22.45	81.5
1958	1555	4,190	Nov. 18, 1957	.2	71.2	1.72	23.35	50.1
1959	1625	4,000	Jan. 21, 1959	0	26.8	.647	8.79	32.9
1960	1705	2,600	June 23, 1960	0	46.3	1.12	15.22	-

a About.

2955. Salt River near Van Buren, Ky.

Location (revised).--Lat 37°58'06", long 85°08'03", on right bank at downstream side of Goodnight Bridge, 1.8 miles east of Van Buren, Anderson County, and 2.3 miles upstream from Crooked Creek.

Drainage area.--196 sq mi (revised), of which about 4 sq mi does not contribute directly to surface runoff.

Records available.--October 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 535.38 ft above mean sea level, datum of 1929. Prior to Feb. 6, 1953, wire-weight and crest-stage gages at same site and datum.

Average discharge.--22 years (1938-60), 239 cfs.

Extremes.--1938-60: Maximum discharge, 14,700 cfs Feb. 13, 1948 (gage height, 19.3 ft, from floodmark), from rating curve extended above 9,000 cfs; no flow for many days in most years.
Maximum stage known, 22.2 ft in 1928 (discharge, 20,000 cfs). Flood in January 1937 reached a stage of 19.6 ft (discharge, 15,000 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	17.6	283	294	1,049	969	614	211	59.8	7.60	19.0	3.15	2.15	290
1952	1.47	487	955	702	298	768	74.4	16.9	31.7	12.3	3.34	.02	281
1953	0	.97	80.4	443	104	745	240	503	43.7	63.9	29.9	0	190
1954	0	2.11	16.3	214	51.3	90.7	221	36.1	18.2	7.68	23.5	99.5	64.9
1955	13.4	16.9	228	171	1,197	1,015	61.5	135	176	52.5	33.0	1.07	253
1956	22.5	48.9	98.7	172	1,356	581	381	54.2	13.8	184	23.5	26.3	240
1957	30.0	40.1	379	611	566	212	739	198	62.3	9.35	4.64	13.6	236
1958	40.0	673	698	374	313	205	416	397	97.8	768	199	22.6	351
1959	10.3	29.9	85.3	674	307	166	135	25.0	47.4	52.7	11.6	2.68	128
1960	72.0	258	458	353	644	416	94.2	24.3	425	196	56.9	217	263

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.10	1.61	1.73	6.17	5.15	3.61	1.20	0.35	0.04	0.11	0.02	0.01	20.10
1952	.009	2.77	5.62	4.13	1.84	4.51	.42	.10	.18	.07	.02	.0001	19.47
1953	0	.006	.47	2.60	.55	4.38	1.36	2.96	.25	.58	.18	0	13.14
1954	0	.01	.10	1.26	.27	.53	1.28	.21	.10	.05	.14	.57	4.50
1955	.08	.10	1.34	1.01	6.36	5.97	.35	.79	1.00	.31	.19	.006	17.51
1956	.13	.28	.52	1.01	7.46	3.42	2.17	.32	.08	.97	.14	.15	16.65
1957	.18	.23	2.23	3.59	3.01	1.25	4.21	1.17	.35	.05	.03	.08	16.38
1958	.24	3.83	4.11	2.20	1.66	1.21	2.37	2.33	.56	4.52	1.17	.13	24.33
1959	.06	.17	.50	3.97	1.63	.98	.77	.15	.27	.31	.07	.02	8.90
1960	.42	1.36	2.69	1.96	3.54	2.45	.54	.14	2.42	1.15	.33	1.23	18.23

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	429	29.72
1951	1205	7,940	Jan. 3, 1951	0.1	290	1.48	20.10	362	25.06
1952	1235	11,600	Mar. 22, 1952	0	281	1.43	19.47	186	11.55
1953	1275	9,690	Mar. 3, 1953	0	190	.969	13.14	184	12.77
1954	1335	3,240	Apr. 16, 1954	0	64.9	.331	4.50	85.2	5.91
1955	1385	6,250	Feb. 6, 1955	0	253	1.23	17.51	244	16.92
1956	1435	8,370	Feb. 15, 1956	0	240	1.22	16.65	264	18.36
1957	1505	11,400	Apr. 4, 1957	0	236	1.20	16.38	316	21.92
1958	1555	14,400	Nov. 18, 1957	1.6	351	1.79	24.33	244	16.88
1959	1625	10,200	Jan. 21, 1959	0	128	.653	8.90	182	12.64
1960	1705	9,930	June 23, 1960	0	263	1.34	18.23	-	-

2960. Plum Creek subwatershed No. 4 near Simpsonville, Ky.

Location.--Lat 38°10'27", long 85°22'05", near center of upstream side of Tucker Dam on tributary to Plum Creek, a quarter of a mile upstream from mouth and 3.5 miles south of Simpsonville, Shelby County.

Drainage area.--1.55 sq mi.

Records available.--November 1954 to September 1960.

Gage.--Water-stage recorder and V-notch sharp-crested wier in drop-inlet entrance to outlet conduit. Datum of gage is 687.99 ft above mean sea level (levels by Soil Conservation Service).

Average discharge.--5 years (1955-60), 1.63 cfs.

Extremes.--1954-60: Maximum outflow, 147 cfs Apr. 4, 1957 (gage height, 20.80 ft); no flow for many days each year. Maximum inflow, 655 cfs (average for 15-minute interval), June 23, 1960, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

Remarks.--Records of monthly and yearly discharge are outflow from reservoir determined from stage-discharge relation for outlet structure. Reservoir is formed by earth dam; dam completed and storage began in October 1954. Outlet structure is a 4 by 4 by 14-foot concrete drop inlet connected to a 36-inch concrete outlet pipe. A 120° V-notch weir with notch at gage height 15.18 ft is set on upstream side of drop inlet. Top of drop inlet is at gage height 15.96 ft, emergency spillway at gage height 27.0 ft. Reservoir capacity at top of drop inlet, 90.0 acre-ft. Capacity at emergency spillway level, 365 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	0.37	1.32	7.31	5.74	2.32	0.64	0.42	1.28	0.19	0	-
1956	0	0.31	.31	.86	10.0	6.06	.46	.11	0	.14	.33	.03	1.52
1957	.14	.03	.64	2.12	3.19	1.90	5.70	1.65	2.42	.29	0	0	1.49
1958	.30	4.84	5.83	2.15	1.87	2.25	4.43	3.07	.119	2.69	1.99	.438	2.50
1959	.121	.382	.934	5.57	2.52	1.48	.306	.339	.020	0	0	.003	.969
1960	.00032	.778	2.71	2.50	4.60	2.34	.864	.269	3.90	1.56	.447	.0017	1.65

Contents, in acre-feet, of reservoir No. 4 on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1951	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	#88.5	#83.5	#92.6	#85.9	#86.7	#85.1	#81.1	#86.5	#78.4	#79.2
1956	#78.8	#82.8	#a83	#90.6	#88.9	#85.5	#83.8	#81.9	#a79	#84.6	#82.7	#80.4
1957	#80.6	#81.7	#85.1	#90.1	#90.4	#84.6	#84.0	#84.8	#89.6	#82.1	#76.4	#74.4
1958	a82	a87	88.1	92.2	88.8	90.0	91.5	81.1	82.0	83.6	81.5	83.6
1959	82.1	84.4	84.6	88.1	a89	85.6	82.4	83.0	77.5	75.1	73.4	75.9
1960	80.2	87.4	89.2	86.1	88.6	88.9	84.4	84.3	90.8	81.0	80.6	79.2

* Not previously published.
a Estimated.

Yearly discharge, in cubic feet per second

Water year	WSP	Water year ending Sept.30						Calendar year	
		Maximum outflow		Maximum inflow a/		Minimum daily outflow	Mean outflow		Mean outflow
		Discharge	Date	Discharge	Date				
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-
1955	1505	129	Apr. 24, 1955	#288	Apr. 24, 1955	0	-	-	1.62
1956	1505	139	Mar. 7, 1956	#551	Mar. 7, 1956	0	1.52	1.54	2.34
1957	1505, 1705	147	Apr. 4, 1957	620	Apr. 4, 1957	0	1.49	2.34	1.71
1958	1555	(b)	(b)	(b)	-	0	2.50	1.71	1.14
1959	1625	138	Jan. 21, 1959	341	Jan. 21, 1959	0	.969	1.14	-
1960	1705	145	June 23, 1960	655	June 23, 1960	0	1.65	-	-

* Not previously published.
a Average for 15-minute interval; computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.
b Not determined; probably occurred Nov. 18, 1957.

2965. Plum Creek near Wilsonville, Ky.

Location.--Lat 38°06'20", long 85°26'14", on left bank 1.0 mile downstream from Drakes Branch, 2.2 miles southwest of Wilsonville, Spencer County, and 3.7 miles upstream from Little Plum Creek.

Drainage area.--19.1 sq mi.

Records available.--May 1954 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 582.99 ft above mean sea level (levels by Soil Conservation Service).

Average discharge.--6 years (1954-60), 21.8 cfs.

Extremes.--1954-60: Maximum discharge, 5,180 cfs June 23, 1960 (gage height, 7.92 ft), from rating curve extended above 2,500 cfs on basis of contracted-opening measurement of peak flow; no flow for many days each year.

Remarks.--Flow regulated by several small detention reservoirs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	2.21	0	1.71	19.9	-
1955	2.39	0.57	21.9	16.9	106	60.9	30.8	17.8	13.3	35.4	1.02	.5	25.1
1956	.22	5.82	4.40	17.0	118	66.0	9.92	4.58	5.18	1.73	1.42	.91	19.2
1957	1.90	.70	10.1	28.8	33.0	19.1	85.1	23.5	21.4	1.77	.01	.05	18.6
1958	.95	75.6	62.3	25.0	22.8	25.8	49.2	33.0	1.08	51.1	32.8	6.81	32.3
1959	1.31	3.93	9.57	74.7	27.5	16.0	6.13	2.73	.653	.234	.337	.973	12.0
1960	.577	13.5	37.1	37.7	57.0	24.7	9.82	3.80	66.2	23.8	7.99	.330	23.4

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	0.13	0	0.16	1.16	-
1955	0.14	0.03	1.32	1.02	5.77	3.68	1.80	1.07	.78	2.14	.06	.03	17.84
1956	.01	.34	.27	1.03	6.67	3.98	.58	.28	.30	.10	.09	.05	13.70
1957	.11	.04	.61	1.74	1.80	1.15	4.97	1.42	1.25	.11	.0008	.003	13.20
1958	.06	4.42	3.76	1.51	1.25	1.56	2.87	1.99	.06	3.08	1.98	.40	22.94
1959	.08	.23	.58	4.51	1.50	.96	.36	.16	.04	.01	.02	.06	8.51
1960	.03	.79	2.24	2.27	3.22	1.49	.57	.23	3.87	1.44	.48	.02	16.65

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	1585	a2,680	Sept. 20, 1954	-	-	-	-	-	-
1955	1385	2,670	July 26, 1955	0	25.1	1.31	17.84	23.9	16.97
1956	1435	2,860	Mar. 7, 1956	0	19.2	1.01	13.70	19.4	13.84
1957	1505	3,940	Apr. 4, 1957	0	18.6	.974	13.20	29.1	20.68
1958	1555	4,180	Aug. 1, 1958	0	32.3	1.69	22.94	21.9	15.59
1959	1625	3,200	Jan. 21, 1959	0	12.0	.628	8.51	15.0	10.68
1960	1705	5,180	June 23, 1960	0	23.4	1.23	16.65	-	-

a Maximum during period May to September.

2967. Plum Creek subwatershed No. 15 (Little Plum Creek) near Wilsonville, Ky.

Location.--Lat 38°05'44", long 85°24'41", on right bank on upstream side of dam on Reservoir No. 15 on Little Plum Creek, 2.1 miles south of Wilsonville, Spencer County, and 2.8 miles upstream from mouth.

Drainage area.--1.03 sq mi.

Records available.--February 1957 to September 1960.

Gage.--Water-stage recorder and V-notch sharp-crested weir in drop-inlet entrance to outlet conduit. Datum of gage is 627.81 ft above mean sea level (levels by Soil Conservation Service).

Extremes.--1957-60: Maximum outflow, 124 cfs June 23, 1960 (gage height, 29.0 ft, from floodmark); no flow for many days each year. Maximum inflow, 1,630 cfs (average for 15-minute interval), June 23, 1960, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface at time of peak flow.

Remarks.--Records of monthly and yearly discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure. Reservoir is formed by earth dam; dam completed and storage began in February 1957. Outlet structure is a 4-foot square concrete drop inlet connected to a 30-inch concrete outlet pipe. A 120° V-notch weir, with notch at gage height 16.39 ft is set in downstream side of drop inlet. Top of drop inlet is at gage height 17.14 ft; emergency spillway at gage height 29.6 ft. Reservoir capacity at top of drop inlet, 63.5 acre-ft. Capacity at emergency spillway level, 225 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	0.977	4.12	1.75	0.737	0.028	0	0	-
1958	0.019	3.80	2.67	1.17	1.10	1.24	2.34	1.84	.022	5.14	.949	.644	1.75
1959	.132	.201	.590	4.20	1.51	.906	.371	.114	.008	.071	.049	.164	.692
1960	.008	1.24	2.21	2.05	3.54	1.61	.396	.180	5.12	1.75	.680	.115	1.56

Contents, in acre-feet, of reservoir No. 15 on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1957	-	-	-	-	61.8	59.4	59.7	59.0	60.7	55.5	51.1	51.9
1958	58.4	60.7	a61	a63	61.8	62.3	62.6	57.6	58.3	60.3	57.1	59.5
1959	58.2	59.3	a59	61.4	62.2	60.5	59.0	59.0	55.4	58.1	60.3	55.4
1960	a58	a61	61.8	60.2	61.5	61.7	59.8	59.2	62.9	57.3	57.8	57.8

a Estimated.

Yearly discharge, in cubic feet per second

yearly discharge, in cubic feet per second										Calendar year	
Water year	WSP	Water year ending Sept.30									
		Maximum outflow		Maximum inflow a/		Minimum daily outflow	Mean outflow	Mean outflow			
		Discharge	Date	Discharge	Date						
1957	1705	b116	Apr. 4, 1957	b431	Apr. 4, 1957	0	-	-	-		
1958	1705	111	Nov. 18, 1957	434	Nov. 18, 1957	0	1.75	1.29	-		
1959	1705	109	Jan. 21, 1959	362	Jan. 21, 1959	0	.692	.904	-		
1960	1705	124	June 23, 1960	1,630	June 23, 1960	0	1.56	-	-		

a Average for 15-minute interval; computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

b Maximum during period February to September.

2968. Plum Creek subwatershed No. 17 near Waterford, Ky.

Location.--Lat 38°04'07", long 85°24'48", near center of upstream side of dam on Reservoir No. 17, 0.3 mile upstream from confluence with unnamed tributary to Little Plum Creek, and 2.6 miles northeast of Waterford, Spencer County.

Drainage area.--0.52 sq mi.

Records available.--June 1957 to September 1960.

Gage.--Water-stage recorder and V-notch sharp-crested weir in drop-inlet entrance to outlet conduit. Datum of gage is 577.20 ft above mean sea level (levels by Soil Conservation Service).

Extremes.--1957-60: Maximum outflow, 87 cfs June 23, 1960 (gage height, 28.70 ft); no flow for many days. Maximum inflow, 721 cfs (average for 15-minute interval) June 23, 1960, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

Remarks.--Records of monthly and yearly discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure. Reservoir is formed by earth dam; dam completed and storage began in May 1957. Outlet structure is a 4-foot square concrete drop inlet connected to a 24-inch concrete outlet pipe. A 120° V-notch weir with notch at gage height 15.13 ft is set in downstream side of drop inlet. Top of inlet is at gage height 15.84 ft; emergency spillway at gage height 30.8 ft. Reservoir capacity at top of drop inlet, 28.7 acre-ft. Capacity at emergency spillway level, 119 acre-ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	0.433	0.006	0	0	-
1958	0.108	2.07	1.14	0.555	0.583	0.666	1.10	1.58	.061	2.31	.184	.135	0.88
1959	.268	.100	.288	1.84	.795	.455	.183	.088	.005	.065	.080	.148	.359
1960	.052	.764	1.20	1.16	1.85	1.01	.341	.095	2.78	.371	.341	.018	.825

Contents, in acre-feet, of reservoir No. 17 on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	26.7	\$25.2	\$23.4	\$25.1	-
1958	26.3	27.5	27.0	29.0	27.7	27.7	27.9	26.9	26.7	27.6	26.5	26.8	-
1959	26.5	26.9	27.0	27.5	27.8	27.2	26.8	26.8	25.5	26.6	27.2	25.7	-
1960	26.9	27.4	27.8	27.4	27.8	28.1	27.3	26.9	27.6	26.4	26.2	26.5	-

* Not previously published.
a Estimated.

Yearly discharge, in cubic feet per second

Water year	WSP	Water year ending Sept.30						Calendar year		
		Maximum outflow		Maximum inflow ^a		Minimum daily outflow	Mean outflow	Mean outflow		
		Discharge	Date	Discharge	Date					
1957	1555	b74	June 28, 1957	b184	June 28, 1957	0	-	-	-	-
1958	1555	81	May 4, 1958	705	May 4, 1958	0	0.88	0.655		
1959	1625	73	Jan. 21, 1959	231	Jan. 21, 1959	0	.359	.472		
1960	1705	87	June 23, 1960	721	June 23, 1960	0	.825	-		

a Average for 15-minute interval; computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

b Maximum for period June to September.

2970. Little Plum Creek near Waterford, Ky.

Location.--Lat 38°03'44", long 85°25'45", on right bank 800 ft upstream from mouth and 1.7 miles north of Waterford, Spencer County.

Drainage area.--5.15 sq mi.

Records available.--July 1954 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 506.37 ft above mean sea level (levels by Soil Conservation Service).

Average discharge.--6 years (1954-60), 6.35 cfs.

Extremes.--1954-60: Maximum discharge, 3,810 cfs June 23, 1960 (gage height, 6.12 ft), from rating curve extended above 900 cfs on basis of slope-area measurement of peak flow; no flow at times each year.

Remarks.--Flow regulated by three small detention reservoirs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	0.64	6.85	-
1955	1.71	0.73	9.65	5.09	31.4	14.9	5.88	3.52	3.94	5.95	.03	.35	6.77
1956	.13	2.53	2.82	6.56	34.5	17.2	5.42	1.48	2.37	.42	.15	1.05	6.10
1957	1.11	.56	4.79	10.1	8.16	5.65	22.0	9.78	4.44	.12	0	.10	5.53
1958	.71	19.6	17.1	6.13	5.24	5.11	11.2	11.8	.219	20.3	2.25	3.46	8.61
1959	2.05	1.37	2.95	19.3	7.29	5.16	2.26	.781	.047	.352	.747	1.11	3.62
1960	.253	6.86	12.1	10.5	17.7	6.40	2.51	1.41	24.8	5.77	2.02	.201	7.48

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	0.14	1.48	-
1955	0.38	0.16	2.16	1.14	6.35	3.33	1.27	0.79	0.85	1.33	.006	.08	17.85
1956	.03	.55	.63	1.47	7.23	3.85	1.17	.33	.51	.09	.03	.23	16.12
1957	.25	.12	1.07	2.26	1.65	1.26	4.77	2.19	.96	.03	0	.02	14.58
1958	.16	4.24	3.82	1.37	1.06	1.14	2.43	2.63	.05	4.54	.50	.75	22.69
1959	.46	1.30	.66	4.33	1.47	1.15	.49	.17	.01	.08	.17	.24	9.53
1960	.06	1.49	2.72	2.35	3.70	1.43	.54	.32	5.37	1.29	.45	.04	19.76

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	1385	al,280	Sept. 20, 1954	0	-	-	-	-	-
1955	1385	1,120	July 24, 1955	0	6.77	1.31	17.85	6.21	16.36
1956	1435	1,060	Feb. 17, 1956	0	6.10	1.18	16.12	6.19	16.35
1957	1505	1,320	Apr. 4, 1957	0	5.53	1.07	14.58	8.10	21.36
1958	1555	1,200	July 21, 1958	0	8.61	1.67	22.69	6.03	15.89
1959	1625	930	Jan. 21, 1959	0	3.62	.703	9.53	4.70	12.38
1960	1705	3,810	June 23, 1960	0	7.48	1.45	19.76	-	-

a Maximum for period July 31 to Sept. 30.

2975. Plum Creek at Waterford, Ky.

Location.--Lat 38°03'05", long 85°25'55", on right bank 0.7 mile downstream from Little Plum Creek, 1.0 mile north of Waterford, Spencer County, and 3.2 miles upstream from mouth.

Drainage area.--31.8 sq mi.

Records available.--December 1953 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 479.70 ft above mean sea level (levels by Soil Conservation Service).

Average discharge.--6 years (1954-60), 39.6 cfs.

Extremes.--Maximum discharge, 13,200 cfs June 23, 1960 (gage height, 11.84 ft), from rating curve extended above 3,500 cfs on basis of contracted-opening measurement of peak flow; no flow for many days each year.

Remarks.--Flow regulated by several small detention reservoirs. Records of water temperatures and suspended sediment loads for the period October 1954 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	19.4	6.62	12.1	20.4	12.6	2.98	0.73	4.82	40.5	-
1955	6.72	2.28	46.4	31.3	182	97.5	50.3	29.7	22.0	41.7	.88	1.49	41.8
1956	.54	14.5	11.0	33.4	194	104	19.9	8.10	8.28	2.50	1.64	3.04	32.7
1957	4.82	1.77	18.6	49.4	52.5	31.7	138	53.2	37.1	1.74	.006	.48	32.2
1958	3.22	134	98.0	42.6	36.2	40.3	77.6	62.0	1.63	107	46.2	20.6	56.0
1959	7.31	7.97	18.7	139	47.9	28.2	11.5	4.95	.85	1.67	2.09	2.74	22.7
1960	1.48	34.8	79.8	76.8	119	43.5	16.5	9.84	178	54.4	16.1	.947	52.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	0.70	0.22	0.44	0.72	0.46	0.10	0.03	0.17	1.42	-
1955	0.24	0.08	1.68	1.14	5.97	3.53	1.76	1.08	.77	1.51	.03	.05	17.84
1956	.02	.51	.40	1.21	6.57	3.76	.70	.29	.29	.09	.06	.11	14.01
1957	.17	.06	.68	1.79	1.72	1.15	4.85	1.93	1.30	.06	.0002	.02	13.73
1958	.12	4.72	3.55	1.54	1.19	1.46	2.72	2.25	.06	3.90	1.67	.72	23.90
1959	.27	.28	.68	5.04	1.57	1.02	.40	.18	.03	.06	.08	.10	9.71
1960	.05	1.22	2.89	2.79	4.04	1.58	.58	.36	6.25	1.97	.58	.03	22.34

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	1385	a6,040	Sept. 20, 1954	0	-	-	-	14.7	6.26
1955	1385	2,850	Apr. 24, 1955	0	41.8	1.31	17.84	39.3	16.77
1956	1435, 1505	4,300	Feb. 17, 1956	0	32.7	1.03	14.01	32.7	13.99
1957	1505	7,760	Apr. 4, 1957	0	32.2	1.01	13.73	49.7	21.21
1958	1555	6,060	Aug. 1, 1958	0	56.0	1.76	23.90	39.2	16.74
1959	1825	6,820	Jan. 21, 1959	0	22.7	.714	9.71	29.6	12.64
1960	1705	13,200	June 23, 1960	0	52.2	1.64	22.34	-	-

a Maximum during period December to September.

2980. Floyds Fork at Fishersville, Ky.

Location.--Lat 38°11'18" (revised), long 85°27'37" (revised), on left bank on downstream side of bridge on former State Highway 155, at Fishersville, Jefferson County, 0.2 mile downstream from Brush Run and 1.5 miles upstream from Poke Lick.

Drainage area.--138 sq mi.

Records available.--August 1944 to September 1960. Monthly discharge only for August 1944, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 542.60 ft above mean sea level, datum of 1929.

Average discharge.--16 years (1944-60), 168 cfs.

Extremes.--1944-60: Maximum discharge, 11,800 cfs June 23, 1960 (gage height, 13.41 ft in gage well, 13.7 ft from outside gage); no flow at times in most years.
Flood in 1937 reached a stage of about 16.8 ft, from floodmark.

Remarks.--Records of chemical analyses for the period December 1952 to August 1953 are published in report of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24.3	312	419	748	590	488	186	44.6	4.30	4.74	22.1	0.82	235
1952	16.2	151	700	519	261	555	83.5	32.6	58.1	2.44	.05	.02	199
1953	0	74	105	336	55.0	396	190	217	21.7	16.2	6.64	0	113
1954	0	0	0	50.9	12.4	40.3	50.3	32.4	6.70	1.73	11.7	143	29.0
1955	7.15	4.66	132	111	677	647	170	59.6	13.1	121	26.2	2.19	161
1956	97.3	115	43.4	159	990	436	127	110	30.9	5.56	46.2	29.6	179
1957	7.86	4.49	69.4	163	400	147	489	167	217	25.0	1.48	2.71	139
1958	3.02	397	500	185	155	219	451	157	7.83	82.0	150	37.7	195
1959	8.29	18.9	76.3	495	268	127	34.0	39.6	2.76	10.7	.80	.15	88.6
1960	1.78	87.6	222	210	440	191	56.0	81.9	359	191	3.23	1.04	152

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.20	2.52	3.50	6.25	4.37	4.08	1.50	0.37	0.03	0.04	0.18	0.007	23.05
1952	.14	1.22	5.85	4.33	2.04	4.64	.68	.27	.47	.02	.0005	.0002	19.66
1953	0	.006	.88	2.81	.41	3.31	1.53	1.82	.18	.14	.06	0	11.15
1954	0	0	0	.43	.09	.34	.41	.27	.05	.01	.10	1.16	2.86
1955	.06	.04	1.10	.93	5.11	5.40	1.37	.50	.11	1.01	.22	.02	15.87
1956	.81	.93	.36	1.32	7.73	3.64	1.03	.92	.25	.05	.39	.24	17.67
1957	.07	.04	.58	1.36	3.02	1.22	3.94	1.40	1.75	.21	.01	.02	13.62
1958	.03	3.21	4.18	1.54	1.17	1.83	3.65	1.31	.06	.69	1.25	.31	19.23
1959	.07	.15	.64	4.05	2.02	1.06	.27	.33	.02	.09	.007	.001	8.71
1960	.01	.71	1.85	1.75	3.44	1.59	.45	.68	2.90	1.60	.03	.008	15.02

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	376	36.94
1951	1205	10,100	Jan. 14, 1951	0	235	1.70	23.05	245	24.04
1952	1235	7,650	Mar. 22, 1952	0	199	1.44	19.66	135	13.34
1953	1275	6,830	Mar. 3, 1953	0	113	.819	11.15	104	10.26
1954	1335	9,590	Sept. 20, 1954	0	29.0	.210	2.86	41.2	4.06
1955	1385	5,810	Mar. 21, 1955	0	161	1.17	15.87	170	16.77
1956	1435	8,470	Feb. 2, 1956	0	179	1.30	17.67	165	16.26
1957	1505	9,400	Apr. 4, 1957	0	138	1.00	13.62	207	20.35
1958	1555	7,950	Nov. 18, 1957	0	195	1.41	19.23	129	12.67
1959	1625	7,920	Jan. 21, 1959	0	88.6	.642	8.71	106	10.42
1960	1705	11,800	June 23, 1960	0	152	1.10	15.02	-	-

2985. Salt River at Shepherdsville, Ky.

Location.--Lat 37°59'06" (revised), long 85°43'03" (revised), near right bank on downstream side of bridge on State Highway 61 at Shepherdsville, Bullitt County, 500 ft downstream from Louisville & Nashville Railroad bridge and 2.5 miles downstream from Floyds Fork.

Drainage area.--1,197 sq mi (revised).

Records available.--May 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 406.62 ft above mean sea level, datum of 1929. Prior to Jan. 16, 1939, wire-weight gage at same site and datum. Since Oct. 1, 1946, auxiliary wire-weight gage on Floyds Fork 2.8 miles upstream. Prior to Oct. 1, 1946, auxiliary gages at various sites downstream from base gage.

Average discharge.--22 years (1938-60), 1,507 cfs.

Extremes.--1938-60: Maximum discharge, 50,000 cfs Mar. 20, 1943; maximum gage height, 38.04 ft Mar. 8, 1945 (backwater from Ohio River); no flow at times.

Maximum stage known, 47.3 ft Jan. 26, 1937, from floodmark (backwater from Ohio River).

Remarks.--Records of chemical analyses, water temperatures, and suspended sediment loads for the period October 1952 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	112	1,854	2,918	7,354	5,500	4,085	1,512	735	63.8	49.1	73.0	48.8	2,009
1952	122	2,103	5,629	4,773	2,371	6,209	835	309	167	51.6	73.9	13.1	1,982
1953	3.64	33.3	1,056	2,822	603	4,428	1,968	2,904	171	259	119	.08	1,209
1954	0	12.4	39.9	852	208	541	828	332	117	21.6	137	1,064	345
1955	213	76.7	1,316	1,247	6,700	5,901	1,190	890	766	1,113	133	107	1,608
1956	199	546	439	1,132	7,770	4,071	1,376	490	332	352	235	120	1,396
1957	195	130	1,179	1,978	2,911	1,086	4,390	1,873	1,253	172	12.4	43.3	1,253
1958	159	4,286	4,142	1,702	1,521	1,444	2,957	2,413	227	3,164	1,124	313	1,958
1959	159	200	598	4,341	2,184	1,206	695	320	124	170	64.2	45.9	838
1960	167	1,106	2,568	2,402	3,835	1,974	805	358	3,455	1,233	413	395	1,548

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.11	1.73	2.81	7.08	4.78	3.93	1.41	0.71	0.06	0.05	0.07	0.05	22.79
1952	.12	1.96	6.39	4.60	2.14	5.98	1.78	.30	.16	.05	.07	.01	22.56
1953	.004	.03	1.02	2.72	.52	4.26	1.83	2.80	.16	.25	.11	.00007	13.70
1954	0	.01	.04	.82	.18	.52	.77	.32	.11	.02	.13	.99	3.91
1955	.20	.07	1.27	1.20	5.83	5.68	1.11	.88	.71	1.07	.13	.10	18.23
1956	.19	.51	.42	1.09	7.00	3.92	1.28	.47	.31	.34	.23	.11	15.87
1957	.19	.12	1.14	1.91	2.53	1.05	4.09	1.80	1.17	1.17	.01	.04	14.22
1958	.15	4.00	3.99	1.64	1.32	1.39	2.76	2.32	.21	3.05	1.08	.29	22.20
1959	.15	.19	.58	4.18	1.90	1.16	.65	.31	.12	.16	.06	.04	9.50
1960	.16	1.03	2.47	2.31	3.46	1.90	.75	.34	3.22	1.19	.40	.37	17.60

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	3,116	35.34
1951	1205	31,400	Jan. 15, 1951	4.0	2,009	1.68	22.79	2,346	28.61
1952	1235	38,600	Mar. 23, 1952	8	1,982	1.66	22.56	1,331	15.14
1953	1275	29,900	Mar. 4, 1953	0	1,209	1.01	13.70	1,121	12.70
1954	1335	16,000	Sept. 21, 1954	0	345	.268	3.91	477	5.40
1955	1385,1435	22,500	Feb. 7, 1955	.8	1,608	1.34	18.23	1,571	17.81
1956	1435	22,500	Feb. 3, 1956	12	1,396	1.17	15.87	1,425	16.20
1957	1505	27,900	Apr. 5, 1957	.4	1,253	1.05	14.22	1,943	20.91
1958	1555	29,600	Nov. 19, 1957	6.9	1,958	1.64	22.20	1,321	14.98
1959	1625	30,200	Jan. 22, 1959	.6	838	.70	9.50	1,080	12.24
1960	1705	29,300	June 24, 1960	.3	1,548	1.29	17.60	-	-

2990. Rolling Fork near Lebanon, Ky.

Location--Lat 37°29'50", long 85°19'26", on left bank at downstream side of bridge on U.S. Highway 68 and State Highway 55, 2.2 miles (revised) downstream from Buckhorn Creek, 5.4 miles southwest of city limits of Lebanon, Marion County, and 14½ miles (revised) downstream from confluence of North and South Forks.

Drainage area--239 sq mi (revised).

Records available--May 1938 to September 1960.

Gage--Water-stage recorder. Datum of gage is 580.74 ft above mean sea level, unadjusted. Prior to May 28, 1953, wire-weight gage at same site and datum.

Average discharge--22 years (1938-60), 317 cfs.

Extremes--1938-60: Maximum discharge, 26,500 cfs Jan. 1, 1945 (gage height, 22.4 ft, from graph based on gage readings), from rating curve extended above 14,000 cfs; no flow at times.

Maximum stage known, 24.7 ft in 1913, from information by local residents.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	32.2	444	439	1,360	1,180	773	412	104	59.2	74.9	21.7	17.0	405
1952	4.66	737	1,378	1,049	375	1,240	194	99	23.4	5.28	.23	.36	428
1953	.17	2.74	47.5	492	204	725	414	846	18.5	30.9	17.1	.26	235
1954	0	.13	.42	236	68.5	173	391	135	18.7	5.28	28.4	5.57	88.5
1955	8.48	26.3	197	171	1,310	1,545	149	122	386	34.0	42.2	1.66	327
1956	13.3	44.3	40.0	404	1,835	839	752	112	170	319	79.2	7.21	378
1957	2.33	4.21	353	886	794	385	871	239	198	26.1	10.8	53.8	314
1958	25.2	864	1,013	535	389	360	677	423	108	781	327	33.8	462
1959	12.9	91.2	124	679	458	324	377	69	39.2	188	38.4	10.1	200
1960	14.2	206	453	443	699	594	243	94	306	96.1	30.0	41.8	267

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.16	2.07	2.12	6.56	5.14	3.73	1.92	0.50	0.28	0.36	0.10	0.08	23.02
1952	.02	3.44	6.65	5.06	1.69	5.98	.90	.48	.11	.03	.001	.002	24.36
1953	.0008	.01	.23	2.37	.89	3.50	1.93	4.08	.09	.15	.08	.001	13.33
1954	0	.0006	.002	1.14	.30	.83	1.82	.65	.09	.03	.14	.03	5.03
1955	.04	.12	.95	.83	5.71	7.45	.70	.59	1.80	.16	.20	.008	18.56
1956	.06	.21	.19	1.95	8.28	4.05	3.51	.54	.79	1.54	.38	.03	21.53
1957	.01	.02	1.70	4.27	3.41	1.85	4.07	1.15	.92	.13	.05	.25	17.83
1958	.12	4.03	4.89	2.58	1.70	1.74	3.16	2.04	.50	3.77	1.58	.16	26.27
1959	.06	.43	.60	3.28	2.00	1.56	1.76	.33	.18	.90	.19	.05	11.34
1960	.07	.96	2.16	2.14	3.15	2.87	1.13	.45	1.43	.46	.14	.20	15.19

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	589	33.43
1951	1205	14,800	Jan. 4, 1951	0.4	405	1.69	23.02	507	28.78
1952	1235	19,000	Mar. 22, 1952	0	428	1.79	24.36	254	14.49
1953	1275	8,450	Mar. 3, 1953	0	235	.983	13.33	231	13.09
1954	1335	6,380	Apr. 17, 1954	0	88.5	1.370	5.03	108	6.14
1955	1385	12,400	Mar. 16, 1955	0	327	1.37	18.56	315	17.91
1956	1435	15,100	Feb. 18, 1956	1.1	378	1.58	21.53	400	22.80
1957	1505	14,200	Apr. 4, 1957	0	314	1.31	17.83	443	25.14
1958	1555	20,200	Nov. 18, 1957	0	462	1.93	26.27	322	18.32
1959	1625	9,020	Jan. 22, 1959	2.5	200	.837	11.34	237	13.47
1960	1705	7,100	Jan. 15, 1960	5.2	267	1.12	15.19	-	-

SALT RIVER BASIN

3000. Beech Fork near Springfield, Ky.

Location.--Lat 37°42'15", long 85°08'45", near center of span on upstream side of bridge on State Highway 152, 50 ft downstream from Pleasant Run and 4½ miles east of Springfield, Washington County.

Drainage area.--85.9 sq mi.

Records available.--September 1952 to September 1960.

Gage.--Wire-weight gage, and crest-stage gage after Aug. 27, 1959. Datum of gage is 677.82 ft above mean sea level, datum of 1929.

Average discharge.--8 years (1952-60), 106 cfs.

Extremes.--1952-60: Maximum discharge, 8,280 cfs Nov. 18, 1957 (gage height, 27.0 ft, from floodmark), from rating curve extended above 3,100 cfs on basis of contracted-opening measurement of peak flow; no flow for many days most years.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	0	1.0	14.9	188	70.9	336	120	220	10.5	9.21	18.2	0.29	83.0
1954	0	.25	2.10	132	24.9	51.0	93.3	37.6	5.07	2.78	26.6	9.96	32.1
1955	4.08	17.8	113	88.8	555	526	29.4	65.9	110	29.9	35.4	3.31	128
1956	10.9	26.8	28.7	169	601	254	131	24.8	100	255	49.0	4.38	136
1957	.68	1.24	164	406	286	96.7	371	116	27.7	11.1	.55	19.7	124
1958	25.1	334	289	179	95.0	117	198	183	86.1	380	136	20.8	171
1959	7.45	30.5	41.0	357	154	95.4	74.5	36.6	10.1	81.6	14	4.0	75.4
1960	4.37	81.0	183	131	264	210	85.7	51.8	166	32.5	10	18.0	101

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	0	0.01	0.20	2.52	0.86	4.51	1.55	2.95	0.14	0.12	0.24	0.004	13.10
1954	0	.003	.30	1.78	.30	.68	1.21	.50	.04	.04	.36	.13	5.07
1955	.05	.23	1.52	1.19	6.48	7.06	.38	1.88	1.43	.40	.47	.04	20.13
1956	.15	.35	.39	2.26	7.54	3.40	1.70	.33	1.30	3.43	.66	.06	21.57
1957	.009	.02	2.21	5.45	3.47	1.30	4.82	1.58	.36	.15	.007	.26	19.62
1958	.34	4.33	3.88	2.40	1.15	1.56	2.57	2.45	1.12	5.10	1.85	.27	27.00
1959	.10	.40	.55	4.80	1.87	1.28	.97	.49	.13	1.10	.19	.05	11.93
1960	.06	1.05	2.46	1.76	3.31	2.81	1.11	.43	2.16	.44	.13	.23	15.95

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	1275, 1705	4, 180	Mar. 3, 1953	0	83.0	0.966	13.10	81.9	12.93
1954	1335, 1705	2, 560	Apr. 16, 1954	0	32.1	.374	5.07	43.3	6.84
1955	1385, 1705	4, 630	Feb. 27, 1955	0	128	1.49	20.13	122	19.22
1956	1435, 1705	6, 480	July 24, 1956	0	136	1.58	21.57	145	22.92
1957	1503, 1705	7, 260	Apr. 4, 1957	0	124	1.44	19.62	164	25.33
1958	1555, 1705	8, 250	Nov. 19, 1957	0	171	1.99	27.00	123	19.50
1959	1625, 1705	5, 310	Jan. 21, 1959	-	75.4	.878	11.93	91.3	14.45
1960	1705	4, 630	Nov. 27, 1959	0	101	1.18	15.95	-	-

3010. Beech Fork at Bardstown, Ky.

Location.--Lat 37°47'49", long 85°28'51", near center of span on downstream side of bridge on U.S. Highway 31E, 0.1 mile downstream from Rowan Creek and 1 mile southwest of Bardstown, Nelson County.

Drainage area.--669 sq mi (revised).

Records available.--October 1939 to September 1960. Monthly discharge only for October, November 1939, published in WSP 1305.

Gage.--Wire-weight gage. Datum of gage is 439.3 ft above mean sea level, datum of 1929.

Average discharge.--21 years (1939-60), 867 cfs.

Extremes.--1939-60: Maximum discharge, 27,600 cfs Nov. 19, 1957 (gage height, 39.5 ft, from floodmark); no flow Sept. 29 to Oct. 4, Oct. 12, 1948, Aug. 27-29, Sept. 2-5, 1957.

Remarks.--At times during periods of low flow, city of Bardstown diverts entire flow above station for municipal water supply. Some of this water is returned to stream by sewer outfall 300 ft above gage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	77.4	1,160	1,262	3,999	3,481	2,097	797	317	102	150	58.9	26.9	1,115
1952	8.06	2,077	3,631	2,672	1,074	3,611	320	115	150	364	20.6	1.49	1,177
1953	.57	2.82	184	1,327	426	2,727	847	2,144	71.5	94.8	26.9	.39	661
1954	.27	21.3	28.9	949	123	387	847	264	58.6	1.36	150	189	251
1955	47.9	41.2	599	613	4,102	4,011	260	313	901	272	162	32.6	927
1956	133	284	284	1,021	5,269	2,662	1,425	226	612	1,534	124	81.8	1,120
1957	15.1	82.9	1,107	2,085	1,732	699	2,762	952	279	85.9	13.6	65.7	816
1958	121	2,682	2,327	1,519	734	680	1,699	2,062	516	2,946	781	75.5	1,351
1959	145	204	393	2,589	1,185	748	591	298	74.7	703	135	41.9	591
1960	183	1,027	1,723	1,154	2,416	1,448	561	189	1,606	538	321	556	970

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.13	1.93	2.17	6.89	5.42	3.61	1.33	0.55	0.17	0.26	0.10	0.04	22.60
1952	.01	3.46	6.26	4.60	1.73	6.22	.53	.20	.25	.63	.04	.002	23.93
1953	.001	.005	.32	2.29	.66	4.70	1.41	3.69	.12	.16	.05	.0006	13.41
1954	.0005	.04	.05	1.64	.19	.67	1.41	.46	.06	.002	.26	.32	5.10
1955	.08	.07	1.03	1.06	6.38	6.91	.43	.54	1.50	.47	.28	.05	18.80
1956	.23	.47	.49	1.76	8.49	4.59	2.38	.39	1.02	2.61	.21	.14	22.78
1957	.05	.14	1.31	3.59	2.70	1.21	4.61	1.64	.47	.15	.02	.11	16.58
1958	.21	4.47	4.01	2.62	1.14	1.17	2.83	3.55	.86	5.08	1.35	.13	27.42
1959	.25	.34	.68	4.46	1.84	1.29	.99	.51	.12	1.21	.23	.07	11.99
1960	.32	1.71	2.97	1.99	3.89	2.50	.94	.33	2.68	.93	.55	.93	19.74

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	-	34.49
1951	1205	20,700	Jan. 15, 1951	2.2	1,115	1.67	22.60	1,700	1,395	28.10
1952	1235	25,500	Mar. 23, 1952	.1	1,177	1.76	23.93	714	649	14.53
1953	1275	20,200	Mar. 4, 1953	.1	661	.988	13.41	649	305	6.19
1954	1335	8,280	Apr. 17, 1954	.1	251	.375	5.10	928	18.81	
1955	1385	18,300	Feb. 7, 1955	.8	927	1.39	18.80			
1956	1435	18,700	Feb. 3, 1956	6.3	1,120	1.67	22.78	1,183	23.19	
1957	1505	22,200	Apr. 5, 1957	0	816	1.22	16.58	1,142	985	20.00
1958	1555	27,600	Nov. 19, 1957	11	1,351	2.02	27.42	775	15.72	
1959	1625	26,700	Jan. 21, 1959	4.8	591	.883	11.99	-	-	
1960	1705	12,900	June 24, 1960	2.2	970	1.45	19.74	-	-	

3015. Rolling Fork near Boston, Ky.

Location.--Lat 37°46'02", long 85°42'14", on downstream side near center of span of bridge on U.S. Highway 62 and State Highway 61, 0.4 mile downstream from Beech Fork and 2.3 miles southwest of Boston, Nelson County.

Drainage area.--1,299 sq mi (revised).

Records available.--May 1938 to September 1960.

Gage.--Wire-weight gage. Datum of gage is 400.42 ft above mean sea level, datum of 1923. Prior to Apr. 22, 1941, wire-weight gage at bridge 1,400 ft upstream at same datum. Since Oct. 1, 1957, auxiliary wire-weight gage at State Highway 434 bridge 7.6 miles downstream. Feb. 4, 1942, to Sept. 30, 1957, auxiliary staff gage 3.5 miles downstream. Prior to Feb. 4, 1942, auxiliary water-stage recorder or staff gage at mouth of Rolling Fork 20 miles downstream.

Average discharge.--22 years (1938-60), 1,692 cfs.

Extremes.--1938-60: Maximum discharge, 41,300 cfs Feb. 15, 1948; maximum gage height, 46.6 ft Jan. 8, 1950, from graph based on gage readings; minimum discharge observed, 0.4 cfs Oct. 20, 1939, and for many days in September and October 1953. Maximum stage known, 55.2 ft in January 1937, former site, from floodmarks.

Remarks.--Records of chemical analyses for the period October 1950 to September 1952 and water temperatures for the period October 1949 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	200	2,480	2,569	7,230	6,779	3,977	1,767	569	227	429	141	105	2,180
1952	49.5	3,749	7,728	5,006	2,137	6,662	925	320	195	381	29.5	8.51	2,278
1953	5.67	14.2	311	2,267	925	4,968	1,897	4,294	159	205	61.6	1.89	1,262
1954	57	33.2	59.4	1,637	288	819	1,877	666	111	6.78	213	207	494
1955	70.6	66.5	943	1,021	6,635	8,159	704	693	1,549	410	324	20.5	1,688
1956	218	434	541	988	10,980	4,628	3,396	485	937	2,558	374	92.0	2,098
1957	48.7	132	1,711	4,250	4,103	1,500	5,412	1,761	859	271	68.3	156	1,668
1958	179	5,310	5,143	2,657	2,161	1,584	3,131	2,876	1,045	5,359	1,956	235	2,641
1959	238	376	804	4,492	2,458	1,621	1,441	701	229	1,169	334	110	1,161
1960	292	1,714	3,282	2,339	3,840	2,830	1,349	478	2,084	1,103	494	885	1,715

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.18	2.13	2.28	6.42	5.43	3.53	1.52	0.50	0.19	0.38	0.12	0.09	22.77
1952	.04	3.22	6.86	4.44	1.77	5.91	.79	.28	.17	.34	.03	.007	23.66
1953	.005	.01	.28	2.01	.66	4.41	1.63	3.81	.14	.18	.05	.002	13.19
1954	.0005	.03	.05	1.45	.23	.73	1.61	.59	.10	.006	.19	.18	5.17
1955	.06	.06	.84	.91	5.32	7.24	.60	.62	1.33	.36	.29	.02	17.65
1956	.19	.37	.48	.88	9.12	4.11	2.92	.43	.81	2.27	.33	.08	21.99
1957	.04	.11	1.52	3.77	3.29	1.33	4.65	1.56	.72	.24	.06	.13	17.42
1958	.16	4.56	4.56	2.36	1.73	1.41	2.69	2.55	.90	4.74	1.74	.20	27.60
1959	.21	.32	.71	3.99	1.97	1.44	1.24	.62	.20	1.04	.30	.09	12.13
1960	.26	1.47	2.91	2.06	3.19	2.51	1.16	.42	1.79	.98	.44	.76	17.97

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	3,356	35.08
1951	1205	28,300	Jan. 16, 1951	14	2,180	1.68	22.77	2,710	28.30
1952	1235	33,400	Mar. 24, 1952	2.9	2,278	1.75	23.86	1,340	14.03
1953	1275	26,300	Mar. 5, 1953	.4	1,262	.972	13.19	1,242	12.97
1954	1385	13,300	Apr. 18, 1954	.4	494	.380	5.17	578	6.05
1955	1385	23,000	Mar. 1, 1955	9.4	1,688	1.30	17.65	1,697	17.73
1956	1435	25,700	Feb. 4, 1956	25	2,098	1.62	21.99	2,158	22.62
1957	1505	30,400	Apr. 6, 1957	13	1,668	1.28	17.42	2,397	25.03
1958	1555	37,500	Nov. 20, 1957	18	2,641	2.03	27.60	1,872	19.56
1959	1625	32,000	Jan. 22, 1959	10	1,161	.89	12.13	1,486	15.53
1960	1705	15,800	Nov. 29, 1959	8.2	1,715	1.32	17.97	-	-

3020. Pond Creek near Louisville, Ky.

Location (revised).--Lat 38°07'10", long 85°47'48", on right bank 300 ft downstream from bridge on Manslick Road, 1.6 miles downstream from confluence of Northern and Southern ditches, and about 3 miles south of Iroquois Park in Louisville, Jefferson County.

Drainage area.--64.0 sq mi (revised).

Records available.--August 1944 to September 1960. Monthly discharge only for August 1944, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 434.38 ft (revised) above mean sea level, datum of 1929.

Average discharge.--16 years (1944-60), 78.6 cfs (unadjusted).

Extremes.--1944-60: Maximum discharge, 3,260 cfs Jan. 21, 1959; maximum gage height, 17.78 ft Apr. 13, 1948; no flow Sept. 19, 20, Oct. 29, 1948.

Maximum stage known, about 19 ft in January 1937 (backwater from Ohio River), from information by local residents.

Remarks.--Records include small amount of inflow diverted by manufacturing plants from Louisville water supply which is supplied from Ohio River.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.46	72.0	149	328	255	223	101	32.9	10.9	9.25	4.76	4.67	99.0
1952	11.5	73.1	302	266	117	267	43.3	12.1	28.6	2.96	4.45	2.67	94.8
1953	3.08	4.40	28.1	94.5	18.4	169	114	113	10.6	19.4	3.92	2.03	48.8
1954	4.10	3.65	4.48	20.6	10.1	11.4	22.0	10.6	4.54	4.00	10.5	31.3	11.4
1955	4.11	4.60	45.2	40.7	303	315	93.3	55.4	52.7	16.7	6.97	3.76	77.1
1956	32.5	61.7	28.0	79.3	452	231	40.8	52.9	13.2	7.83	16.8	15.3	84.6
1957	12.7	7.10	22.5	49.2	112	52.2	178	157	146	29.6	10.1	14.6	65.3
1958	12.9	240	187	85.2	66.3	106	156	83.5	15.1	81.2	51.8	23.7	92.4
1959	13.3	15.5	30.0	225	90.4	64.4	27.0	50.7	7.85	15.6	18.1	7.30	47.1
1960	15.7	41.6	109	125	171	88.4	32.3	26.7	293	72.1	7.29	9.56	82.0

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	168	-
1951	1205	1,690	Jan. 14, 1951	1.3	99.0	-	-	113	-
1952	1235	1,420	Mar. 22, 1952	.8	94.8	-	-	65.2	-
1953	1275	1,330	Mar. 5, 1953	.1	48.8	-	-	46.8	-
1954	1335	607	Sept. 20, 1954	.4	11.4	-	-	14.9	-
1955	1385	1,380	Mar. 21, 1955	.7	77.1	-	-	82.7	-
1956	1435	1,660	Feb. 2, 1956	3.5	84.6	-	-	77.9	-
1957	1505	2,290	Apr. 4, 1957	3.4	65.3	-	-	98.5	-
1958	1555	2,590	Nov. 18, 1957	4.5	92.4	-	-	60.7	-
1959	1625	3,260	Jan. 21, 1959	4.8	47.1	-	-	56.1	-
1960	1705	2,490	June 23, 1960	2.4	82.0	-	-	-	-

3025. Big Indian Creek near Corydon, Ind.

Location.--Lat 38°16'35", long 86°06'35", in SE $\frac{1}{4}$ 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 $4\frac{1}{2}$ miles north of Corydon.

Drainage area.--129 sq mi.

Records available.--October 1943 to September 1960.

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.--17 years (1943-60), 176 cfs.

Extremes.--1943-60: 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, 4.28 ft Sept. 27-30, 1960.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	9.61	283	329	673	547	577	417	52.1	22.0	3.26	0.239	11.9	242
1952	4.38	180	580	437	366	602	106	43.1	112.0	4.62	.897	2.36	203
1953	3.76	6.33	78.2	351	84.2	338	176	270	14.0	33.2	21.4	.060	116
1954	.08	.44	1.56	33.9	47.2	62.1	76.1	37.5	19.5	.23	12.0	.003	32.5
1955	27.0	6.73	90.6	135	577	510	208	91.9	62.1	72.9	10.0	17.9	148
1956	56.3	148.0	41.5	104	1,002	370	86.2	129	91.3	21.3	8.63	7.89	169
1957	1.90	2.16	15.8	114	358	126	383	401	292	43.8	7.28	.81	144
1958	2.73	410	652	181	135	255	269	156	30.5	191.0	209	47.0	212
1959	19.5	64.1	112	839	343	189	148	122	15.2	3.88	4.58	.86	155
1960	12.1	65.4	237	206	270	215	88.7	25.5	525	151	9.52	6.65	150

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.09	2.45	2.94	6.01	4.42	5.16	3.60	0.47	0.19	0.03	0.002	0.10	25.46
1952	.04	1.55	5.18	3.90	3.06	5.38	.91	.39	.97	.04	.008	.02	21.45
1953	.03	.05	.70	3.14	.68	3.02	1.52	2.41	.12	.30	.19	.0005	12.16
1954	.0007	.004	.01	.30	.38	.55	.66	.34	.17	.002	.11	.89	3.42
1955	.24	.06	.81	1.21	4.66	4.56	1.80	.62	.54	.65	.09	.16	15.60
1956	.50	1.28	.37	.93	8.38	3.31	.83	1.15	.79	.19	.08	.07	17.88
1957	.02	.02	.14	1.02	2.90	1.13	3.40	3.58	2.52	.39	.06	.007	15.19
1958	.02	3.55	5.82	1.61	1.09	2.28	2.33	1.40	.26	1.71	1.87	.41	22.35
1959	.17	.55	1.00	7.49	2.77	1.70	1.28	1.09	.13	.03	.04	.007	16.26
1960	.11	.57	2.12	1.84	2.25	1.92	.77	.23	4.54	1.35	.08	.06	15.84

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	372	38.61
1951	1205	1385	6,820	Jan. 14, 1951	0	242	1.88	25.46	26.75
1952	1235	10,400	Mar. 11, 1952	0	203	1.57	21.45	147	15.46
1953	1275	5,400	Mar. 3, 1953	0	116	.899	12.16	108	11.39
1954	1335	4,800	Sept. 20, 1954	0	32.5	.252	3.42	42.8	4.51
1955	1385	3,900	Mar. 15, 1955	.4	148	1.15	15.60	158	16.64
1956	1435	7,180	Feb. 25, 1956	.8	169	1.31	17.88	151	15.91
1957	1505	7,300	Feb. 10, 1957	.3	144	1.12	15.19	232	24.40
1958	1555	6,590	Nov. 19, 1957	.5	212	1.64	22.35	139	14.68
1959	1625	23,800	Jan. 21, 1959	.2	155	1.20	16.26	165	17.34
1960	1705	10,500	June 23, 1960	0	150	1.16	15.84	-	-

3030. Blue River near White Cloud, Ind.

Location.--Lat 38°14'15", long 86°13'50", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ 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 1960. 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.--30 years (1930-60), 615 cfs.

Extremes.--1930-60: 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	117	1023	1,095	2,344	1,990	2,154	1,609	375	179	109	81.1	105	924
1952	41.5	557	2,066	1,511	1,633	1,999	641	217	296	89.4	32.7	49.9	759
1953	21.7	33.3	193	1,124	469	1,119	815	1,030	161	292	54.8	18.8	446
1954	14.6	21.8	24.1	123	170	303	384	189	181	44.8	71.2	249	147
1955	237	69.1	354	553	2,155	2,061	639	382	290	328	83.1	162	599
1956	515	589	230	350	3,149	1,374	639	640	334	143	88.5	75.2	887
1957	44.8	35.6	109	527	1,284	580	1,979	1,771	745	286	108	55.1	619
1958	37.0	1,337	2,417	797	527	861	824	944	193	879	800	584	637
1959	195	258	563	2,664	1,268	889	826	437	206	69.5	57.4	70.9	806
1960	68.6	137	520	725	1,004	779	477	253	1,882	771	84.6	42.3	559

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.29	2.49	2.74	5.86	4.50	5.39	3.89	0.94	0.43	0.27	0.15	0.25	27.20
1952	.10	1.35	5.17	3.78	3.82	5.00	1.55	.54	.72	.17	.08	.12	22.40
1953	.05	.08	.48	2.81	1.06	2.80	1.97	2.57	.39	.73	.14	.05	13.13
1954	.04	.05	.06	.31	.38	.76	.93	.47	.44	.11	.18	.60	4.33
1955	.59	.17	.83	1.38	4.87	5.15	1.55	.96	.70	.82	.21	.39	17.62
1956	1.29	1.43	.58	.88	7.37	3.44	1.55	1.60	.81	.36	.22	.18	19.71
1957	.11	.09	.27	1.31	2.90	1.40	4.79	4.43	1.81	.71	.27	.13	18.22
1958	.09	3.24	6.04	1.99	1.19	2.16	2.00	2.36	.47	2.20	2.01	.93	24.68
1959	.49	.62	1.41	6.66	2.90	2.22	1.52	1.09	.50	.17	.14	.17	17.89
1960	.17	.33	1.30	1.81	2.35	1.95	1.15	.63	4.55	1.92	.21	.10	16.47

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,279	37.66
1951	1205	15,100	Jan. 15, 1951	22	924	2.00	27.20	961	28.30
1952	1235	13,400	Mar. 12, 1952	13	759	1.65	22.40	556	16.39
1953	1275, 1555	7,550	Mar. 4, 1953	10	446	.967	13.13	438	12.90
1954	1335	4,300	Sept. 20, 1954	11	147	.319	4.33	196	5.77
1955	1385	11,800	Feb. 28, 1955	26	599	1.30	17.62	656	19.33
1956	1435	11,200	Feb. 25, 1956	23	667	1.45	19.71	571	16.88
1957	1505	17,100	May 23, 1957	21	619	1.34	18.22	921	27.12
1958	1555	12,200	Dec. 21, 1957	21	837	1.82	24.68	605	17.83
1959	1625	28,500	Jan. 22, 1959	23	608	1.32	17.89	584	17.17
1960	1705	19,400	June 24, 1960	18	559	1.21	16.47	-	-

3045. McGills Creek near McKinney, Ky.

Location.--Lat 37°26'38", long 84°41'52", on right bank 0.3 mile upstream from mouth, 3.2 miles northeast of Arabia, and 3.2 miles east of McKinney, Lincoln County.

Drainage area.--2.14 sq mi.

Records available.--September 1951 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 968.50 ft above mean sea level, datum of 1929.

Average discharge.--9 years (1951-60), 2.72 cfs.

Extremes.--1951-60: Maximum discharge, 1,030 cfs Nov. 18, 1957 (gage height, 5.60 ft), from rating curve extended above 800 cfs on basis of slope-area measurement at gage height 5.40 ft; no flow for many days.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	0	7.12	10.5	7.82	3.84	13.2	1.57	2.50	0.10	0	0	0	3.94
1953	0	.04	.87	4.75	2.26	5.75	2.88	5.61	.66	.55	.08	0	1.95
1954	0	0	0	3.90	.81	1.28	3.44	1.18	.14	.02	.02	.007	.90
1955	0	0	1.42	1.37	11.4	17.3	1.12	1.70	2.68	.79	.05	.03	3.12
1956	.52	1.37	.46	4.97	18.3	7.78	8.43	2.15	.25	.63	.05	0	3.68
1957	0	0	2.30	7.40	7.96	4.30	8.92	2.68	.480	.332	.016	.730	2.89
1958	.203	8.00	7.80	3.70	3.55	4.47	8.56	4.73	.595	3.18	1.73	.55	3.92
1959	.121	1.01	1.09	4.89	4.33	3.40	4.48	.497	.842	.611	.358	.083	1.79
1960	.013	.525	2.01	3.09	5.96	5.91	2.03	1.10	4.72	1.61	.135	.098	2.25

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	0.20	3.71	5.65	4.21	1.93	7.13	0.82	1.35	0.05	0	0	0	25.05
1953	0	.02	.36	2.56	1.10	3.10	1.50	3.02	.34	.29	.04	0	12.33
1954	0	0	0	2.10	.40	.69	1.80	.64	.07	.01	.01	.003	5.72
1955	0	0	.77	.74	5.57	9.33	.58	.92	1.40	.42	.03	.01	19.77
1956	.28	.71	.25	2.68	9.21	4.19	4.40	1.16	.13	.34	.03	0	23.38
1957	0	0	1.24	3.98	3.87	2.32	4.65	1.43	.24	.18	.009	.38	18.30
1958	.11	4.17	4.20	1.99	1.73	2.41	4.46	2.55	.31	1.71	.93	.29	24.86
1959	.07	.53	.59	2.63	2.11	1.83	2.34	.27	.44	.33	.19	.04	11.37
1960	.007	.27	1.09	1.66	3.00	3.19	1.08	.59	2.46	.87	.07	.05	14.32

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1275	-	-	0	-	-	-	-	-
1952	1275	950	Mar. 22, 1952	0	3.94	1.84	25.05	2.50	15.87
1953	1275	257	May 17, 1953	0	1.95	.911	12.33	1.89	11.95
1954	1385	88	Jan. 20, 1954	0	.90	.421	5.72	1.02	6.49
1955	1385	555	Mar. 16, 1955	0	3.12	1.46	19.77	3.19	20.24
1956	1435	398	Jan. 30, 1956	0	3.68	1.72	23.38	3.67	23.38
1957	1505	481	Apr. 8, 1957	0	2.89	1.35	18.30	4.03	25.54
1958	1555	1,030	Nov. 18, 1957	.05	3.92	1.83	24.86	2.77	17.57
1959	1625	146	June 5, 1959	0	1.79	.836	11.37	1.82	11.55
1960	1705	499	June 23, 1960	0	2.25	1.05	14.32	-	-

3050. Green River near McKinney, Ky.

Location.--Lat 37°25'19", long 84°45'01", on right bank 10 ft downstream from highway bridge, 0.8 mile upstream from South Fork, 1.2 miles northwest of Arabia, 2.2 miles south of McKinney, Lincoln County, and 3.3 miles downstream from McGills Creek.

Drainage area.--22.4 sq mi.

Records available.--September 1951 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 893.69 ft above mean sea level, unadjusted.

Average discharge.--9 years (1951-60), 27.7 cfs.

Extremes.--1951-60: Maximum discharge, 10,400 cfs Mar. 22, 1952 (gage height, 8.93 ft), from rating curve extended above 1,500 cfs on basis of contracted-opening measurement at gage height 8.85 ft; no flow for many days.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	3.24	71.9	102	92.3	40.1	129	16.2	25.0	1.00	0.17	0.13	0	40.2
1953	0	.24	5.53	45.4	22.9	51.8	30.0	63.7	5.19	3.87	.36	0	19.2
1954	0	0	.06	35.7	5.27	10.5	32.0	10.9	2.21	1.59	.69	.22	8.29
1955	.04	.007	14.2	16.3	110	141	9.19	12.8	23.8	5.90	.24	.32	27.4
1956	3.59	9.24	6.74	49.8	172	74.8	72.9	23.1	5.04	10.2	.83	.07	35.1
1957	0	.003	25.7	83.3	84.0	47.4	90.0	26.2	5.72	3.12	.54	6.43	30.7
1958	1.05	69.9	89.5	43.8	41.8	49.6	89.1	54.5	4.34	45.0	21.9	5.88	43.0
1959	.85	7.93	10.6	56.4	43.0	33.9	44.4	5.70	9.47	8.95	2.99	.24	18.5
1960	.04	4.20	24.4	37.4	71.1	71.7	16.1	17.1	62.5	20.1	2.51	.83	27.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	0.17	3.58	5.23	4.75	1.93	6.64	0.81	1.29	0.05	0.009	0.006	0	24.46
1953	0	.01	.28	2.34	1.07	2.66	1.49	3.28	.26	.20	.02	.0002	11.61
1954	0	0	.003	1.84	.25	.54	1.59	.56	.11	.08	.04	.01	5.02
1955	.002	.0003	.73	.84	5.10	7.28	.46	.66	1.18	.30	.01	.02	16.58
1956	.18	.46	.35	2.56	8.30	3.85	3.63	1.19	.25	.52	.04	.003	21.33
1957	0	.0002	1.32	4.29	3.91	2.44	4.48	1.35	.28	.16	.03	.32	18.58
1958	.05	3.48	4.60	2.26	1.94	2.55	4.44	2.81	.22	2.32	1.13	.29	26.09
1959	.04	.39	.55	2.90	2.00	1.75	2.21	.29	.47	.46	.15	.01	11.22
1960	.002	.21	1.25	1.92	3.43	3.69	.80	.88	3.11	1.03	.13	.04	16.49

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1275	-	-	-	-	-	-	-	-
1952	1275,1505	10,400	Mar. 22, 1952	0	40.2	1.79	24.46	26.0	15.78
1953	1275,1505	1,300	May 18, 1953	0	19.2	.857	11.61	18.7	11.32
1954	1335,1505	708	Apr. 16, 1954	0	8.29	.370	5.02	9.49	5.75
1955	1385,1505	3,900	Mar. 21, 1955	0	27.4	1.22	16.58	27.8	16.84
1956	1435	3,710	Jan. 30, 1956	0	35.1	1.57	21.33	35.7	21.66
1957	1505	2,630	Apr. 8, 1957	0	30.7	1.37	18.58	41.9	25.39
1958	1555	9,600	Nov. 18, 1957	.1	43.0	1.92	26.09	31.2	18.94
1959	1625	890	Jan. 21, 1959	0	18.5	.826	11.22	19.3	11.70
1960	1705	2,660	June 23, 1960	0	27.2	1.21	16.49	-	-

GREEN RIVER BASIN

3055. Green River near Mount Salem, Ky.

Location.--Lat 37°24'40", long 84°45'11", on left bank 20 ft upstream from bridge on private road, about 300 ft downstream from South Fork, 0.8 mile downstream from gaging station near McKinney, and 2.6 miles east of Mount Salem, Lincoln County.

Drainage area.--36.3 sq mi.

Records available.--October 1953 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 881.84 ft above mean sea level, datum of 1929.

Average discharge.--7 years (1953-60), 51.7 cfs.

Extremes.--1953-60: Maximum discharge, 11,700 cfs Nov. 18, 1957 (gage height, 11.11 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	0	0	0.087	66.8	10.1	20.1	56.3	19.9	3.31	3.25	1.39	0.210	15.2
1955	.011	.025	25.2	26.3	217	285	22.0	32.8	52.1	9.84	1.28	.338	55.1
1956	5.35	13.0	9.17	87.2	334	142	138	37.9	6.14	13.4	1.22	.100	64.4
1957	.048	.020	49.2	155	167	91.8	158	55.1	14.2	5.79	.905	11.7	58.3
1958	1.72	144	180	84.3	83.1	99.3	181	110	13.1	80.2	39.1	9.84	85.5
1959	1.46	12.7	15.9	111	88.4	63.5	86.2	7.90	13.1	19.7	4.79	.27	35.1
1960	.060	7.29	44.3	56.7	137	139	27.8	25.6	109	33.2	2.63	1.01	48.3

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	0	0	0.003	2.12	0.29	0.64	1.73	0.63	0.10	0.10	0.04	0.006	5.86
1955	.0004	.0008	.80	.84	6.22	9.06	.68	1.04	1.60	.31	.04	.01	20.60
1956	.17	.40	.29	2.77	9.93	4.50	4.23	1.20	.19	.42	.04	.003	24.14
1957	.002	.0006	1.56	4.93	4.79	2.92	4.84	1.75	.44	.18	.03	.36	21.80
1958	.05	4.44	5.71	2.68	2.38	3.15	5.57	3.48	.40	2.55	1.24	.30	31.95
1959	.05	.39	.51	3.54	2.53	2.01	2.65	.25	.40	.62	.15	.008	13.11
1960	.002	.22	1.41	1.80	4.07	4.42	.85	.81	3.34	1.06	.08	.03	18.09

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	1335	1,400	Jan. 20, 1954	0	15.2	0.419	5.66	17.3	6.46
1955	1385, 1505	5,300	Mar. 21, 1955	0	55.1	1.52	20.60	55.3	20.66
1956	1435, 1505	4,340	Jan. 30, 1956	.05	64.4	1.77	24.14	66.3	24.85
1957	1505	3,280	Apr. 8, 1957	0	58.3	1.61	21.80	81.4	30.44
1958	1555	11,700	Nov. 18, 1957	.6	85.5	2.36	31.95	60.7	22.70
1959	1625	1,630	Jan. 21, 1959	0	35.1	.967	13.11	36.9	13.79
1960	1705	4,800	June 23, 1960	0	48.3	1.33	18.09	-	-

3065. Green River at Greensburg, Ky.

Location.--Lat 37°15'13", long 85°30'11", on left bank 75 ft downstream from bridge on U.S. Highway 68, 300 ft upstream from Clover Lick Creek, a quarter of a mile south of Greensburg, Green County, and 2.6 miles upstream from Russell Creek.

Drainage area.--736 sq mi (revised).

Records available.--June 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 531.81 ft above mean sea level, datum of 1929. Prior to June 20, 1941, wire-weight gage at same site and datum. Since Jan. 4, 1951, auxiliary wire-weight gage read twice daily, 1.8 miles upstream from base gage. November 1941 to Jan. 3, 1951, auxiliary staff gage 1.5 miles downstream from base gage.

Average discharge.--21 years (1939-60), 1,067 cfs.

Extremes.--1939-60: Maximum discharge, 47,000 cfs Mar. 23, 1952 (gage height, 33.50 ft); minimum, 0.4 cfs Oct. 26, 27, 1953.
Maximum stage known, 36.2 ft in 1913, from floodmark.

Remarks.--Records of water temperatures for the period October 1949 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	325	1,817	1,802	3,599	4,662	2,772	1,639	362	201	348	137	418	1,486
1952	103	3,473	4,742	3,489	1,622	4,968	765	663	154	64.1	48.1	12.0	1,684
1953	9.65	31.0	211	1,567	871	1,895	1,204	2,749	213	282	99.0	7.23	765
1954	.60	3.54	29.2	1,508	293	667	1,406	516	258	45.4	39.1	15.8	399
1955	16.5	65.0	658	662	4,022	5,439	579	397	1,385	301	149	19.5	1,124
1956	134	154	176	1,106	6,790	2,525	2,424	690	192	526	190	25.9	1,220
1957	3.76	31.4	1,366	5,334	3,069	1,422	2,656	813	632	156	28.9	217	1,131
1958	95.8	2,849	3,313	1,716	1,600	1,360	2,860	1,918	333	1,418	908	338	1,544
1959	120	353	490	2,085	2,034	1,158	1,376	342	181	325	216	156.0	718
1960	69.2	524	1,363	1,452	2,267	2,243	762	379	1,561	672	71.8	71.9	950

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.51	2.75	2.82	5.64	6.60	4.34	2.48	0.57	0.30	0.55	0.21	0.63	27.40
1952	.16	5.26	7.43	5.46	2.38	7.81	1.16	1.04	.23	.10	.08	.02	31.13
1953	.02	.05	.33	2.45	1.23	2.97	1.83	4.31	.32	.44	.16	.01	14.12
1954	.0009	.005	.05	2.36	.41	1.04	2.13	.81	.39	.07	.06	.02	7.35
1955	.05	.10	1.03	1.04	5.69	8.52	.88	.62	2.10	.47	.23	.05	20.74
1956	.21	.23	.28	1.73	9.95	3.95	3.67	1.08	.29	.82	.30	.04	22.55
1957	.006	.05	2.14	5.22	4.34	2.23	4.03	1.27	.96	.24	.05	.33	20.86
1958	.15	4.32	5.19	2.69	2.26	2.13	4.06	3.00	.50	2.22	1.42	.51	28.45
1959	.19	.54	.77	3.27	2.68	1.81	2.09	.54	.24	.51	.34	.08	13.26
1960	.11	.79	2.17	2.27	3.32	3.51	1.16	.59	2.37	1.05	.11	.11	17.56

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2,107	38.84
1951	1205	14,000	Feb. 2, 1951	34	1,486	2.02	27.40	1,853	34.17
1952	1235	47,000	Mar. 23, 1952	5.1	1,684	2.29	31.13	1,010	18.68
1953	1275	16,500	May 20, 1953	.6	765	1.04	14.12	747	13.78
1954	1335	11,700	Apr. 17, 1954	.4	399	.542	7.35	459	8.45
1955	1385	23,600	Mar. 23, 1955	6.0	1,124	1.53	20.74	1,101	20.30
1956	1435	24,200	Feb. 19, 1956	5.0	1,220	1.66	22.55	1,300	24.03
1957	1505	21,500	Jan. 30, 1957	2.0	1,131	1.54	20.86	1,536	28.33
1958	1555	25,600	Nov. 20, 1957	37	1,544	2.10	28.45	1,101	20.29
1959	1625	12,500	Jan. 22, 1959	13	718	.976	13.26	804	14.83
1960	1705	13,000	June 25, 1960	8.4	950	1.29	17.56	-	-

GREEN RIVER BASIN

3070. Russell Creek near Columbia, Ky.

Location.--Lat 37°07'09", long 85°23'38", on left bank at downstream side of bridge on State Highway 61, 0.2 mile upstream from Butlers Fork and 5 miles west of Columbia, Adair County. Records include flow of Butlers Fork.

Drainage area.--188 sq mi, revised (includes that of Butlers Fork), of which about 15 sq mi does not contribute directly to surface runoff.

Records available.--October 1939 to September 1960. Prior to December 1939 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 610.96 ft above mean sea level, unadjusted. Prior to June 25, 1953, wire-weight gage at same site and datum.

Average discharge.--21 years (1939-60), 269 cfs.

Extremes.--1939-60: Maximum discharge, 15,900 cfs Mar. 22, 1952 (gage height, 23.8 ft, from floodmark), from rating curve extended above 7,900 cfs by logarithmic plotting; minimum daily, 0.4 cfs Sept. 25, 1952, Oct. 22-24, 1953.

Flood in January 1937 reached a stage of about 23 ft, from information by local residents.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	232	621	529	932	1,136	770	449	119	64.8	96.0	66.7	257	435
1952	54.3	1,047	1,212	937	360	1,206	158	125	43.6	19.3	19.2	11.5	426
1953	12.2	17.2	48.4	416	221	599	282	491	84.2	123	15.9	2.09	177
1954	1.38	8.92	18.6	405	103	194	463	178	126	20.4	11.6	20.3	129
1955	8.38	43.0	296	181	1,128	1,188	207	119	217	145	27.4	48.2	296
1956	45.8	45.0	48.5	378	1,490	622	540	181	41.7	77.3	67.3	16.0	291
1957	18.6	23.9	319	902	795	385	607	268	216	48.2	16.3	67.4	302
1958	51.1	515	677	471	396	357	762	406	100	275	146	52.5	349
1959	25.0	71.4	64.2	416	553	248	551	220	139	27.8	30.8	15.8	177
1960	42.2	114	305	282	542	578	166	91.8	294	156	45.4	15.6	218

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.42	3.69	3.24	5.72	6.29	4.72	2.66	0.73	0.38	0.59	0.41	1.52	31.37
1952	.33	6.21	7.43	5.13	2.07	7.40	.94	.77	.26	.12	.12	.07	30.85
1953	.07	.10	.30	2.55	1.22	2.45	1.68	3.01	.50	.76	.10	.01	12.75
1954	.008	.05	.11	2.48	.57	1.19	2.75	1.09	.75	.13	.07	.12	9.32
1955	.05	.26	1.81	1.11	6.25	7.28	1.23	.73	1.29	.89	.17	.29	21.36
1956	.28	.27	.30	2.32	8.55	3.81	3.21	1.11	.25	.47	.41	.09	21.07
1957	.11	.14	1.96	5.53	4.40	2.56	3.60	1.65	1.28	.30	.10	.40	21.83
1958	.19	3.05	4.15	2.89	2.19	2.19	4.52	2.49	.59	1.69	.89	.31	25.15
1959	.15	.42	.39	2.55	3.06	1.52	2.08	1.35	.83	.17	.19	.08	12.79
1960	.26	.68	1.86	1.73	3.11	3.54	.99	.56	1.74	.96	.28	.09	15.80

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	556	40.12
1951	1205	8,310	Dec. 7, 1950	11	435	2.31	31.37	513	36.99
1952	1255	15,900	Mar. 22, 1952	.4	426	2.27	30.85	240	17.35
1953	1275, 1335	4,060	May 19, 1953	1.1	177	.941	12.75	172	12.45
1954	1335	5,100	Apr. 16, 1954	.4	129	.686	9.32	156	11.27
1955	1385	10,700	Mar. 22, 1955	2.2	296	1.57	21.36	278	20.09
1956	1435	8,030	Jan. 30, 1956	4.0	291	1.55	21.07	310	22.43
1957	1505	7,790	Jan. 29, 1957	4.2	302	1.61	21.83	374	27.01
1958	1555	8,090	Nov. 18, 1957	16	349	1.86	25.15	260	18.72
1959	1625	4,340	Feb. 15, 1959	2.0	177	.941	12.79	203	14.63
1960	1705	3,300	June 23, 1960	3.4	218	1.16	15.80	-	-

3075. South Fork Little Barren River at Edmonton, Ky.

Location.--Lat 36°58'27", long 85°36'11", on right bank 13 ft downstream from bridge on State Highway 496, three-quarters of a mile southeast of Edmonton, Metcalfe County, and 3.0 miles upstream from Rogers Creek.

Drainage area.--18.3 sq mi (revised).

Records available.--June 1941 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 742.83 ft above mean sea level, datum of 1929. Prior to July 21, 1953, at site 5 ft upstream from bridge at same datum.

Average discharge.--19 years (1941-60), 26.6 cfs.

Extremes.--1941-60: Maximum discharge, 2,140 cfs June 15, 1949 (gage height, 10.00 ft), from rating curve extended above 1,200 cfs by logarithmic plotting; no flow at times during most years.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	17.4	58.9	37.9	96.6	96.1	73.1	50.8	6.22	4.42	1.25	1.13	6.48	37.3
1952	8.14	69.9	120	67.0	35.0	105	17.0	12.7	6.77	1.23	0	.28	37.3
1953	0	.22	2.51	34.9	27.4	48.5	32.4	39.8	.44	3.23	.273	0	15.8
1954	0	0	.066	30.4	14.5	24.5	63.3	13.7	11.4	1.07	.013	3.89	13.5
1955	.598	4.93	40.7	16.7	117	114	31.0	10.7	18.0	2.00	.916	5.45	29.7
1956	.729	1.65	3.67	39.8	118	48.1	44.8	17.9	.687	3.61	1.28	.018	23.0
1957	.0016	.152	28.9	92.6	73.9	35.3	53.4	24.7	9.29	1.39	.042	9.87	27.2
1958	1.19	53.1	63.4	37.5	27.5	40.3	76.7	42.0	6.56	4.65	4.75	2.33	30.0
1959	.332	6.00	4.79	39.3	57.2	29.0	33.5	30.8	14.1	3.25	2.52	3.12	18.4
1960	3.33	13.9	35.9	28.2	57.6	56.7	13.4	6.18	21.3	5.20	2.18	1.54	20.4

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.10	3.59	2.39	6.09	5.47	4.60	3.10	0.39	0.27	0.08	0.07	0.52	27.67
1952	.51	4.26	7.58	4.22	2.06	6.63	1.04	.80	.53	.08	0	.02	27.73
1953	0	.01	.16	2.20	1.56	3.06	1.97	2.51	.03	.20	.02	0	11.72
1954	0	0	.004	1.91	.82	1.54	3.86	.87	.70	.07	.0008	.24	10.01
1955	.04	.30	2.56	1.05	6.65	7.21	1.89	.68	1.10	.13	.06	.33	22.00
1956	.05	.10	.23	2.51	6.96	3.03	2.73	1.13	.04	.23	.08	.001	17.09
1957	.0001	.009	1.82	5.83	4.21	2.22	3.26	1.56	.57	.09	.003	.60	20.17
1958	.08	3.24	3.99	2.36	1.56	2.54	4.68	2.64	.40	.29	.30	.14	22.22
1959	.02	.37	.30	2.48	3.25	1.83	2.04	1.94	.86	.20	.16	.19	13.64
1960	.21	.85	2.26	1.78	3.41	3.57	.82	.39	1.30	.33	.14	.09	15.15

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	52.7	39.07
1951	1205	1,480	Nov. 20, 1950	0	37.3	2.04	27.67	44.4	32.94
1952	1235	2,020	Mar. 22, 1952	0	37.3	2.04	27.73	20.9	15.55
1953	1275	1,150	Mar. 4, 1953	0	15.8	.863	11.72	15.6	11.55
1954	1335	1,280	Apr. 16, 1954	0	13.5	.738	10.01	17.4	12.91
1955	1385	1,640	Mar. 21, 1955	0	29.7	1.62	22.00	26.3	19.48
1956	1435	1,450	Jan. 30, 1956	0	23.0	1.26	17.09	24.9	18.54
1957	1505	1,510	Jan. 22, 1957	0	27.2	1.49	20.17	34.6	25.65
1958	1555	1,510	Nov. 18, 1957	0	30.0	1.64	22.22	21.0	15.60
1959	1625	1,160	May 30, 1959	.05	18.4	1.01	13.64	21.9	16.27
1960	1705	1,110	June 28, 1960	0	20.4	1.11	15.15	-	-

3085. Green River at Munfordville, Ky.

Location.--Lat 37°16'05", long 85°53'10", on right bank at downstream side of pier of bridge on U.S. Highway 31W at Munfordville, Hart County.

Drainage area.--1,678 sq mi (revised) of which about 180 sq mi does not contribute directly to surface runoff.

Records available.--February 1915 to December 1922, October 1927 to September 1931, December 1936 to February 1937 (in WSP 838), October 1937 to September 1960. Monthly discharge only for October 1937 to March 1938, published in WSP 1305. Gage-height records collected at same site since 1924 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 451.70 ft above mean sea level, datum of 1929. Prior to Oct. 18, 1940, chain or staff gages at site 0.2 mile downstream at same datum. Oct. 18 to Nov. 29, 1940, wire-weight gage at present site and datum.

Average discharge.--34 years (1915-22, 1927-31, 1937-60), 2,581 cfs.

Extremes.--1915-22, 1927-31, 1936-37, 1937-60: Maximum discharge, 60,000 cfs (revised) Jan. 23, 1937 (gage height, 50.40 ft, from floodmarks, site then in use); minimum, 39 cfs Sept. 2, 1921 (gage height, 2.2 ft, site then in use).

Maximum stage known, 54.0 ft in January 1913, at former site (discharge, 67,000 cfs, revised).

Remarks.--Records of chemical analyses for the period September 1949 to September 1960; water temperatures for the period October 1950 to September 1960; and suspended sediment loads for the period April 1951 to September 1960 are published in reports of the Geological Survey.

Revisions.--Revised records for January 1937, superseding those published in WSP 1305, are given herewith. Revised daily discharges for the period affected are available and will be published in a subsequent water-supply paper. Figures of discharge above 35,000 cfs at indicated times for January 1937, published in WSP 838, should not be used.

Month	Mean	Runoff in inches	Momentary maximum	
			Discharge	Date
January 1937.....	24,270	16.72	60,000	Jan. 23, 1937

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,116	4,054	4,055	8,801	11,380	6,841	3,981	1,122	583	955	541	1,080	3,660
1952	349	7,555	11,200	7,684	3,892	11,650	1,814	1,259	646	344	228	133	3,910
1953	111	161	466	2,900	1,817	4,662	2,731	6,361	659	632	264	78.3	1,753
1954	69.7	110	143	3,119	866	1,565	3,654	1,527	951	227	202	206	1,053
1955	156	254	1,688	1,589	8,391	12,350	1,796	1,078	2,866	955	508	213	2,673
1956	515	380	490	1,682	16,700	5,880	5,427	1,667	539	1,150	719	195	2,884
1957	108	162	2,584	6,082	8,783	3,400	5,793	1,996	1,514	463	174	683	2,601
1958	306	7,116	7,090	3,637	3,738	2,942	5,706	4,926	894	3,151	2,053	722	3,521
1959	293	649	1,068	4,815	4,552	2,676	2,948	1,341	814	911	597	278	1,728
1960	409	1,638	3,805	3,598	5,278	5,269	2,206	924	2,640	1,694	360	358	2,339

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.77	2.70	2.79	6.06	7.08	4.71	2.65	0.77	0.39	0.66	0.37	0.72	29.67
1952	.24	5.04	7.72	5.29	2.51	8.03	1.21	.87	.43	.24	.16	.09	31.83
1953	.08	.11	.32	2.00	1.19	3.21	1.82	4.38	.44	.44	.18	.05	14.22
1954	.05	.07	.10	2.15	.54	1.08	2.44	1.05	.63	.16	.14	.14	8.55
1955	.11	.17	1.16	1.10	5.22	8.92	1.20	.74	1.91	.68	.35	.14	21.68
1956	.35	.25	.34	1.16	10.76	4.05	3.62	1.15	.36	.79	.50	.13	23.46
1957	.07	.11	1.78	4.19	5.47	2.34	3.86	1.38	1.01	.32	.12	.46	21.11
1958	.21	4.75	4.89	2.51	2.33	2.03	3.81	3.39	.60	2.17	1.41	.48	28.58
1959	.20	.43	.74	3.32	2.83	1.84	1.97	.92	.54	.63	.41	.19	14.02
1960	.28	1.09	2.62	2.48	3.40	3.63	1.47	.64	1.76	1.17	.25	.24	19.03

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	5,065	41.10	
1951	1205	22,400	Jan. 16, 1951	184	3,660	2.19	29.67	4,489	36.41	
1952	1235	56,100	Mar. 25, 1952	102	3,910	2.34	31.83	2,375	19.34	
1953	1275	23,300	May 21, 1953	69	1,753	1.05	14.22	1,718	13.93	
1954	1335	16,800	Apr. 18, 1954	53	1,053	.629	8.55	1,203	9.77	
1955	1385	35,000	Mar. 24, 1955	88	2,873	1.60	21.68	2,612	21.18	
1956	1455	36,300	Feb. 20, 1956	111	2,884	1.72	23.46	3,011	24.48	
1957	1505	31,600	Feb. 1, 1957	82	2,601	1.55	21.11	3,572	29.00	
1958	1555	36,500	Nov. 21, 1957	140	3,521	2.10	28.58	2,477	20.10	
1959	1625	23,000	Jan. 23, 1959	122	1,728	1.03	14.02	2,062	16.64	
1960	1705	13,500	Nov. 28, 1959	120	2,339	1.40	19.03	-	-	

3095. McDougal Creek near Hodgenville, Ky.

Location.--Lat 37°32'37", long 85°40'19", on left bank 0.3 mile upstream from bridge on State Highway 470, 4½ miles southeast of Hodgenville, Larue County, and 4½ miles upstream from mouth.

Drainage area.--5.34 sq mi.

Records available.--August 1953 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 775 ft (from topographic map).

Average discharge.--7 years (1953-60), 7.14 cfs.

Extremes.--1953-60: Maximum discharge, 2,100 cfs Nov. 18, 1957 (gage height, 6.27 ft), from rating curve extended above 850 cfs; no flow at times in most years.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	#0	-
1954	0.050	0.552	0.552	5.73	2.55	2.27	6.40	3.58	1.82	0.144	0.669	.735	2.08
1955	.884	.340	1.41	1.93	28.3	35.1	3.69	1.42	4.48	.453	.321	.13	6.41
1956	.90	2.14	2.02	8.90	37.6	20.4	12.7	2.88	3.81	4.40	2.09	.688	8.09
1957	1.51	.743	5.95	20.4	16.8	7.53	29.8	8.59	7.23	1.83	.413	.825	8.35
1958	1.20	28.2	21.4	10.5	9.31	7.19	16.5	11.4	6.23	20.9	13.9	2.18	12.4
1959	1.50	3.04	3.29	17.3	11.1	6.38	7.59	4.09	1.81	8.82	1.05	.340	5.51
1960	1.37	5.45	13.8	11.8	17.5	13.9	5.71	1.60	5.17	2.69	1.16	5.66	7.11

* Not previously published.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	#0	-
1954	0.01	0.12	0.12	1.24	0.50	0.49	1.34	0.77	0.38	0.03	0.14	.15	5.29
1955	.19	.07	.30	.42	5.51	7.59	.77	.31	.94	.10	.07	.03	16.30
1956	.20	.45	.44	1.92	7.60	4.41	2.65	.62	.80	.95	.45	.14	20.63
1957	.33	.16	1.29	4.40	3.28	1.63	6.22	1.81	1.51	.39	.09	.13	21.24
1958	.26	5.90	4.62	2.26	1.82	1.55	3.46	2.47	1.30	4.51	3.00	.45	31.60
1959	.32	.64	.71	3.74	2.17	1.38	1.59	.88	.38	1.90	.23	.07	14.01
1960	.30	1.14	2.98	2.55	3.52	3.00	1.19	.34	1.08	.58	.25	1.18	18.11

* Not previously published.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	1335	-	-	0	-	-	-	-	-
1954	1335	320	June 18, 1954	0	2.08	0.390	5.29	2.21	5.60
1955	1385	974	Mar. 16, 1955	0	6.41	1.20	16.30	6.61	16.53
1956	1435	650	Jan. 30, 1956	.2	8.09	1.51	20.63	8.36	21.32
1957	1505	1,370	Apr. 4, 1957	.25	8.35	1.56	21.24	11.9	30.24
1958	1555	2,100	Nov. 18, 1957	.3	12.4	2.32	31.60	8.85	22.49
1959	1625	1,180	July 23, 1959	.15	5.51	1.03	14.01	6.59	16.76
1960	1705	284	Jan. 14, 1960	.2	7.11	1.33	18.11	-	-

3100. North Fork Nolin River at Hodgenville, Ky.

Location.--Lat 37°34'33", long 85°44'23", on right bank 10 ft upstream from bridge on State Highway 61 at Hodgenville, Larue County, and 0.6 mile downstream from McDougal Creek.

Drainage area.--36.4 sq mi, of which about 0.8 sq mi does not contribute directly to surface runoff.

Records available.--July 1941 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 701.64 ft above mean sea level, unadjusted.

Average discharge.--19 years (1941-60), 47.3 cfs.

Extremes.--1941-60: Maximum discharge, 8,300 cfs July 11, 1958 (gage height, 15.50 ft), from rating curve extended above 4,400 cfs; no flow at times.

Remarks.--City of Hodgenville diverts approximately 0.1 cfs above station for municipal water supply.

Revisions.--A period for the water year 1942 was revised in WSP 1505; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches	Minimum day
January 1942.....	25.2	-	0.80	-
Water year 1941-42....	25.6	0.703	9.55	0
Calendar year 1942....	39.7	-	14.79	-

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11.3	95.7	101	227	195	119	47.1	12.6	22.7	49.6	20.2	31.7	77.1
1952	18.3	135	200	131	66.7	204	26.9	13.0	3.61	5.43	.76	.06	67.4
1953	4.400	3.77	14.7	39.1	23.0	150	45.0	103	3.90	6.50	1.23	0	32.8
1954	0	2.87	3.23	29.3	12.6	12.5	30.1	18.4	9.24	.38	1.81	3.63	10.3
1955	4.72	.68	8.62	14.1	161	192	29.4	9.30	25.8	8.08	3.55	1.54	37.5
1956	2.24	5.33	11.5	33.9	206	110	63.9	18.4	12.2	30.3	7.08	3.88	41.3
1957	12.2	3.53	31.1	103	84.6	50.0	173	71.0	34.5	16.7	1.87	2.64	48.3
1958	6.83	157	124	53.4	61.3	43.0	70.1	62.5	33.1	167	45.1	9.66	69.4
1959	5.01	12.2	14.4	98.8	69.2	51.6	32.1	20.7	9.18	61.3	15.4	4.96	32.8
1960	7.25	32.5	98.2	69.5	98.9	101	41.3	14.0	28.9	13.1	9.79	37.3	45.8

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.56	2.93	3.20	7.19	5.59	3.77	1.44	0.40	0.69	1.57	0.64	0.97	28.75
1952	.58	4.14	6.32	4.16	1.97	6.47	.83	.41	.11	.17	.02	.002	25.18
1953	.01	.12	.47	1.24	.66	4.74	1.38	3.27	.12	.21	.04	0	12.26
1954	0	.09	.10	.93	.36	.40	.92	.58	.28	.01	.06	.11	3.84
1955	.15	.02	.27	.45	4.61	6.08	.90	.29	.79	.26	.11	.05	13.98
1956	.07	.16	.37	1.07	6.09	3.47	1.96	.58	.38	.96	.22	.12	15.45
1957	.39	.11	.99	5.25	2.42	1.58	5.31	2.25	1.06	.53	.06	.08	18.03
1958	.22	4.61	3.91	1.69	1.75	1.36	2.15	1.98	1.02	5.28	1.43	.30	25.90
1959	.16	.37	.46	3.13	1.98	1.64	.98	.66	.28	1.94	.49	.15	12.24
1960	.23	1.00	3.11	2.20	2.93	3.21	1.26	.44	.88	.42	.31	1.14	17.13

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	1.2	-	-	103	38.50
1951	1205	-	Jan. 14, 1951	0	77.1	2.12	28.75	89.3	33.30
1952	1235	5,290	Mar. 10, 1952	0	67.4	1.85	25.18	39.4	14.74
1953	1275	6,580	Mar. 3, 1953	0	32.8	.901	12.26	31.7	11.85
1954	1335	548	Sept. 21, 1954	0	10.3	.283	3.84	11.0	4.09
1955	1385	6,840	Mar. 16, 1955	0	37.5	1.03	13.98	37.9	14.14
1956	1435	3,810	Feb. 2, 1956	0	41.3	1.13	15.45	43.7	16.34
1957	1505	6,510	Apr. 4, 1957	2	48.3	1.33	18.03	68.3	25.48
1958	1555	8,300	July 11, 1958	2.0	69.4	1.91	25.90	48.1	17.95
1959	1625	7,510	July 23, 1959	.1	32.8	.901	12.24	41.8	15.59
1960	1705	1,640	Sept. 17, 1960	0	45.8	1.26	17.13	-	-

3103. Nolin River at White Mills, Ky.

Location.--Lat 37°33'03", long 86°02'43", on right bank 0.8 mile southwest of White Mills, Hardin County, and 2.2 miles downstream from bridge on State Highway 84.

Drainage area.--357 sq mi, of which about 120 sq mi does not contribute directly to surface runoff.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 583.08 ft above mean sea level, datum of 1929. Prior to Jan. 8, 1960, staff gage at same site and datum.

Extremes.--1959-60: Maximum discharge, 3,860 cfs Feb. 10, 1960 (gage height, 13.12 ft); minimum observed, 31 cfs Oct. 1, 1959 (gage height, 1.52 ft). Flood in 1854 was about 1½ ft lower than the 1937 flood which reached a stage of about 34 ft, and the November 1957 flood was about 3 ft lower than the 1937 flood, from information by local resident.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	89.8	209	750	687	965	630	422	158	218	175	96.2	227	401

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	0.29	0.65	2.42	2.22	2.92	2.68	1.32	0.51	0.68	0.56	0.32	0.71	15.28

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1960	1705	3,860	Feb. 10, 1960	36	401	1.12	15.28	-	-

3104. Bacon Creek near Priceville, Ky.

Location.--Lat 37°21'31", long 85°59'53", on right bank 1.2 miles southwest of Priceville, Hart County, 1.3 miles downstream from small unnamed tributary, 2.1 miles upstream from unnamed tributary, and 7.2 miles upstream from mouth.

Drainage area.--85.4 sq mi, of which about 31 sq mi does not contribute directly to surface runoff.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 568.13 ft above mean sea level, datum of 1929.

Extremes.--1959-60: Maximum discharge, 630 cfs Jan. 15, 1960 (gage height, 8.43 ft); minimum, 8.0 cfs Oct. 1-6, 1959; minimum gage height, 1.12 ft Sept. 8, 9, 1960. Maximum stage known, 21.8 ft in November 1957, from floodmark. Floods in January 1937 and April 1957 reached a stage of about 8 ft lower than flood of November 1957 (from information by local residents).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	17.7	37.0	106	99.1	113	107	56.2	22.8	46.4	49.6	22.2	33.5	59.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	0.24	0.48	1.43	1.34	1.42	1.44	0.73	0.31	0.63	0.67	0.30	0.44	9.43

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1960	1705	630	Jan. 15, 1960	8.0	59.2	0.693	9.43	-	-

3105. Nolin River at Wax, Ky.

Location.--Lat 37°20'43", long 86°07'21", on right bank at upstream side of bridge on State Highway 88 at Wax, Grayson County, 5.3 miles upstream from Dog Creek, 14 miles northwest of Munfordville, and 28 miles (revised) upstream from mouth.

Drainage area.--600 sq mi, of which about 220 sq mi does not contribute directly to surface runoff.

Records available.--October 1936 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 462.81 ft above mean sea level, datum of 1929. Prior to Sept. 27, 1941, wire-weight gage at same site and datum.

Average discharge.--24 years (1936-60), 783 cfs.

Extremes.--1936-60: Maximum discharge, 22,000 cfs (revised) Jan. 24, 1937 (gage height, 32.26 ft, from floodmarks), from rating curve extended above 15,000 cfs on basis of slope-conveyance and velocity-area studies and shape of subsequent ratings defined to 17,000 cfs; minimum daily, 34 cfs Sept. 17, 1941.

Remarks.--Records of chemical analyses and suspended sediment loads for the period October 1959 to September 1960 are published in WSP 1741.

Revisions.--A period for the water year 1937 was revised in WSP 1555; the resulting revised records as summarized herewith supersede those published in WSP 1305.

Month	Mean	Per square mile	Runoff in inches	Momentary maximum	
				Discharge	Date
January 1937.....	6,545	-	12.58	-	-
Water year 1936-37.....	1,056	1.76	23.89	22,000	Jan. 24, 1937
Calendar year 1937.....	1,005	-	22.73	-	-

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	289	1,007	1,331	3,125	5,114	2,231	987	387	397	583	226	293	1,153
1952	214	1,842	3,633	2,218	1,218	3,405	713	349	299	143	107	75.3	1,208
1953	66.8	72.0	220	845	540	2,218	857	1,847	308	198	108	49.7	615
1954	44.5	93.6	82.5	526	253	327	599	423	237	89.3	170	165	251
1955	197	59.3	321	338	2,491	3,304	624	307	484	215	191	112	710
1956	145	231	261	518	3,456	1,865	1,216	444	267	351	204	102	743
1957	165	100	364	1,306	1,608	842	2,916	1,096	797	404	141	134	815
1958	181	321.6	2,148	912	1,084	744	1,219	1,175	430.1	823	873	275	1,173
1959	145	156	217	1,362	1,042	827	577	615	382	763	307	176	546
1960	201	400	1,271	1,190	1,525	1,366	713	284	434	398	188	412	696

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.55	1.87	2.56	6.00	5.40	4.29	1.83	0.74	0.74	1.12	0.43	0.54	26.07
1952	.41	3.42	7.36	4.26	2.19	6.54	1.33	.67	.56	.27	.21	.14	27.36
1953	.13	.13	.42	1.62	.94	4.26	1.59	3.55	.57	.38	.21	.09	13.89
1954	.09	.17	.16	1.01	.44	.63	1.11	.81	.44	.17	.33	.31	5.67
1955	.38	.11	.62	.65	4.32	6.35	1.16	.59	.90	.41	.37	.21	16.07
1956	.28	.43	.50	1.00	6.21	3.58	2.26	.85	.50	.67	.39	.19	16.86
1957	.32	.19	.70	2.51	2.79	1.62	5.42	2.11	1.48	.78	.27	.25	18.44
1958	.35	5.98	4.13	1.75	1.88	1.43	2.27	2.26	.80	3.50	1.68	.51	26.54
1959	.27	.29	.42	2.62	1.81	1.59	1.07	1.18	.71	1.47	.59	.33	12.35
1960	.39	.74	2.44	2.29	2.74	2.62	1.33	.55	.81	.76	.36	.77	15.80

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,575	35.61
1951	1205	11,700	Jan. 17, 1951	122	1,153	1.92	26.07	1,428	32.28
1952	1235	13,900	Mar. 24, 1952	63	1,206	2.01	27.36	743	16.85
1953	1275, 1335	9,060	Mar. 5, 1953	35	615	1.02	13.89	603	13.63
1954	1335	3,440	Jan. 21, 1954	38	251	.418	5.67	281	6.36
1955	1385	8,740	Mar. 22, 1955	49	710	1.18	16.07	715	16.17
1956	1435	8,010	Feb. 3, 1956	63	743	1.24	16.86	743	16.86
1957	1505	12,500	Apr. 6, 1957	65	815	1.36	18.44	1,223	27.69
1958	1555	18,000	Nov. 19, 1957	68	1,173	1.96	26.54	754	17.06
1959	1625	7,360	Jan. 22, 1959	98	546	.910	12.35	660	14.94
1960	1705	4,970	Feb. 11, 1960	81	696	1.16	15.80	-	-

3115. Green River at lock 6, at Brownsville, Ky.

Location.--Lat 37°12'25", long 86°15'40", on right bank 200 ft upstream from lock and dam 6, 0.7 mile downstream from Indian Creek, 1.0 mile northeast of Brownsville, Edmonson County, 1.8 miles downstream from Nolin River, and at mile 181.7.

Drainage area.--2,762 sq mi (revised), of which about 690 sq mi does not contribute directly to surface runoff.

Records available.--October 1924 to September 1931, December 1936 to February 1937 (in WSP 838), July 1938 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 413.03 ft above mean sea level, datum of 1929. Prior to Nov. 26, 1940, staff gage at same site and datum. Since Oct. 1, 1948, upper staff gage at lock 5 used as auxiliary gage.

Average discharge.--29 years (1924-31, 1938-60), 4,082 cfs.

Extremes.--1924-31, 1936-37, 1938-60: Maximum discharge, 120,000 cfs Jan. 24, 1937 (gage height, 44.94 ft, from floodmarks), from rating curve extended above 68,000 cfs on basis of slope-area measurement of peak flow; minimum daily, 120 cfs Sept. 18, 19, 1954. Flood of Jan. 10, 1913, reached a stage of 42.8 ft.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,634	5,701	6,187	15,280	18,150	10,860	5,814	1,848	1,064	1,825	1,071	1,720	5,854
1952	987	10,480	19,250	12,180	6,858	18,980	3,247	2,010	1,137	637	515	351	6,404
1953	262	307	862	4,332	3,044	9,040	4,427	10,431	1,244	997	469	208	2,984
1954	194	358	338	4,607	1,682	2,376	5,501	2,588	1,626	441	444	499	1,715
1955	484	405	2,226	2,406	13,450	19,860	3,022	1,710	3,949	1,195	726	279	4,091
1956	925	772	874	2,459	25,090	9,912	8,492	2,585	885	1,693	1,118	316	4,503
1957	294	328	3,154	8,233	13,660	5,346	11,570	3,670	2,959	1,069	445	864	4,226
1958	726	13,480	11,760	5,740	6,253	4,774	8,377	7,890	1,683	5,404	3,777	1,248	5,919
1959	610	865	1,551	7,614	6,886	4,459	4,417	2,690	1,664	2,173	1,199	717	2,882
1960	805	2,452	6,488	6,266	8,457	8,512	3,980	1,364	3,438	2,776	669	933	3,832

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.68	2.30	2.58	6.38	6.84	4.53	2.35	0.77	0.43	0.76	0.45	0.69	28.76
1952	.37	4.23	8.03	5.09	2.68	7.92	1.31	.84	.46	.27	.22	.14	31.56
1953	.11	.12	.36	1.81	1.15	3.77	1.79	4.35	.50	.42	.20	.08	14.66
1954	.08	.14	.14	1.92	.63	.99	2.22	1.08	.66	.18	.19	.20	8.43
1955	.20	.16	.93	1.00	5.07	8.29	1.22	.71	1.60	.50	.30	.11	20.09
1956	.39	.31	.36	1.03	9.80	4.14	3.43	1.08	.36	.71	.47	.13	22.21
1957	.12	.13	1.32	3.44	5.15	2.23	4.67	1.53	1.20	.45	.19	.35	20.78
1958	.30	5.44	4.91	2.40	2.36	1.99	3.38	3.29	.68	2.26	1.58	.50	29.09
1959	.25	.35	.65	3.18	2.60	1.86	1.78	1.12	.67	.91	.50	.29	14.16
1960	.34	.99	2.71	2.62	3.30	3.55	1.61	.57	1.39	1.16	.28	.38	18.90

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	8,078	39.69
1951	1205	38,700	Jan. 17, 1951	543	5,854	2.12	28.76	7,293	35.83
1952	1235	66,900	Mar. 25, 1952	140	6,404	2.32	31.56	3,959	19.52
1953	1275	32,500	May 20, 1953	190	2,984	1.08	14.66	2,936	14.43
1954	1335	20,400	Apr. 19, 1954	120	1,715	.621	8.43	1,906	9.36
1955	1385	38,100	Mar. 26, 1955	145	4,091	1.48	20.09	4,044	19.86
1956	1435	44,000	Feb. 3, 1956	188	4,503	1.63	22.21	4,806	22.72
1957	1505	38,000	Feb. 2, 1957	173	4,226	1.53	20.78	6,073	29.86
1958	1555	55,300	Nov. 21, 1957	365	5,919	2.14	29.09	4,006	19.69
1959	1625	33,700	Jan. 24, 1959	416	2,882	1.04	14.16	3,448	16.95
1960	1705	19,000	Jan. 16, 1960	260	3,832	1.39	18.90	-	-

3120. Bear Creek near Leitchfield, Ky.

Location.--Lat 37°25'35", long 86°15'50", near center of span on upstream side of bridge on State Highway 65, just downstream from Taylor Fork, 0.8 mile upstream from McClure Fork and 4 miles south of Leitchfield, Grayson County.

Drainage area.--30.8 sq mi.

Records available.--October 1949 to September 1960.

Gage.--Wire-weight and crest-stage gages. Altitude of gage is 500 ft (from topographic map).

Average discharge.--11 years (1949-60), 49.4 cfs.

Extremes.--1949-60: Maximum discharge, 8,070 cfs Nov. 18, 1957 (gage height, 21.33 ft), from rating curve extended above 2,800 cfs by logarithmic plotting; no flow at times during most years.

Flood in 1937 reached a stage of about 21 ft, from information by local resident.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.79	144	61.3	249	139	116	65.7	4.56	7.51	5.97	1.79	31.5	68.8
1952	1.94	72.6	255	121	39.6	173	25.6	3.42	.98	4.17	.15	.72	58.6
1953	.184	1.38	16.3	83.4	24.2	149	48.0	123	3.15	5.91	.332	0	39.3
1954	0	.66	2.20	60.4	15.4	12.6	41.7	21.2	7.80	2.52	1.75	7.98	14.5
1955	2.32	.83	41.8	14.2	177	106	25.7	31.8	88.7	1.82	3.14	27.6	42.3
1956	3.03	53.1	21.5	46.0	264	144	52.8	30.2	33.8	30.8	4.61	.007	56.1
1957	2.21	3.85	22.9	115	71.1	34.6	104	43.0	10.6	28.0	1.47	1.77	36.3
1958	4.23	213	194	63.7	40.6	57.5	68.2	36.4	3.20	43.8	4.10	2.07	60.9
1959	2.07	2.28	2.82	94.8	51.5	35.8	29.5	51.3	10.2	22.7	11.7	8.27	26.9
1960	4.55	25.6	91.2	56.2	117	84.3	28.8	4.77	113	20.8	1.67	24.5	47.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.18	5.22	2.29	9.32	4.70	4.36	2.38	0.17	0.27	0.22	0.07	1.14	30.32
1952	.07	2.63	9.54	4.51	1.39	6.48	.93	.15	.04	.16	.006	.03	25.92
1953	.007	.05	.61	3.12	.82	5.59	1.74	4.59	.11	.22	.01	0	16.87
1954	0	.02	.08	2.26	.52	.47	1.51	.79	.28	.09	.07	.29	6.38
1955	.09	.03	1.56	.53	5.98	3.95	.93	1.19	3.21	.07	.12	1.00	18.66
1956	.11	1.92	.80	1.72	9.24	5.40	1.91	1.13	1.23	1.15	.17	.0002	24.78
1957	.08	.14	.86	4.29	2.40	1.30	3.76	1.61	.38	1.05	.06	.06	15.99
1958	.16	7.72	7.24	2.38	1.37	2.15	2.47	1.36	.12	1.64	.15	.07	26.83
1959	.08	.08	.11	3.55	1.74	1.34	1.07	1.92	.37	.85	.44	.30	11.65
1960	.17	.93	3.41	2.10	4.08	3.15	1.04	.16	4.08	.78	.06	.89	20.87

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	97.5	42.97
1951	1205	4,740	Nov. 19, 1950	0.4	68.8	2.23	30.32	79.1	34.87
1952	1235	5,700	Mar. 22, 1952	0	58.6	1.90	25.92	32.4	14.34
1953	1275	3,590	Mar. 3, 1953	0	38.3	1.24	16.87	37.0	16.30
1954	1335	2,470	Jan. 20, 1954	0	14.5	1.471	6.38	18.1	7.96
1955	1385	4,950	Sept. 30, 1955	0	42.3	1.37	18.66	45.0	19.81
1956	1435	5,040	Mar. 7, 1956	0	56.1	1.82	24.78	52.1	23.03
1957	1505	3,830	Apr. 4, 1957	0	36.3	1.18	15.99	68.2	30.03
1958	1555	8,070	Nov. 18, 1957	.5	60.9	1.98	26.83	27.2	11.98
1959	1625	2,510	Jan. 21, 1959	.5	26.9	1.873	11.65	36.5	16.09
1960	1705	4,120	June 28, 1960	.7	47.2	1.53	20.87	-	-

3125. Barren River near Pageville, Ky.

Location.--Lat 36°51'09", long 86°04'37", near right bank on downstream side of bridge pier on U.S. Highway 31E, 100 ft upstream from Hurricane Creek, 1.8 miles south of Pageville, Barren County, and 2.3 miles upstream from Peter Creek.

Drainage area.--531 sq mi (revised), of which about 20 sq mi does not contribute directly to surface runoff.

Records available.--June 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 505.47 ft above mean sea level, datum of 1929. Prior to Nov. 28, 1940, wire-weight gage at same site and datum.

Average discharge.--21 years (1939-60), 844 cfs.

Extremes.--1939-60: Maximum discharge, 70,000 cfs Mar. 23, 1952 (gage height, 27.26 ft); minimum, 21 cfs Sept. 28, 1941, Sept. 19, 20, 1954.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	274	1,130	895	2,305	3,481	2,315	1,824	383	352	274	259	220	1,126
1952	177	1,941	3,650	2,490	1,408	4,125	707	474	322	132	89.7	112	1,307
1953	92.4	128	180	1,085	1,125	1,469	799	1,727	207	176	89.2	38.8	589
1954	43.2	62.0	96.3	1,046	508	741	1,599	480	149	109	46.7	122	599
1955	217	153	1,022	562	2,618	4,203	1,123	432	576	154	122	82.2	930
1956	192	159	152	1,317	3,880	1,854	1,627	618	188	298	181	74.7	866
1957	56.5	106	1,019	3,377	2,359	1,230	1,956	1,213	650	168	76.7	323	1,037
1958	168	1,665	2,315	1,050	1,069	1,016	1,970	1,351	396	341	330	197	988
1959	134	295	226	1,043	1,528	963	1,155	425	348	142	201	247	551
1960	187	526	1,301	960	1,670	1,808	781	316	786	499	172	164	761

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.59	2.37	1.94	5.00	6.83	5.03	3.83	0.83	0.74	0.60	0.56	0.46	28.78
1952	0.38	4.08	7.92	5.41	2.86	8.96	1.49	1.03	.68	.29	.19	.24	33.53
1953	.20	.27	.35	2.31	2.21	3.19	1.68	3.75	.44	.38	.19	.08	15.05
1954	.09	.13	.21	2.27	1.00	1.61	2.94	1.04	.31	.24	.10	.26	10.20
1955	.47	.32	2.22	1.22	5.13	9.13	2.36	.94	1.21	.33	.26	.17	23.76
1956	.42	.33	.33	2.86	7.88	4.03	3.42	1.34	.40	.65	.39	.16	22.21
1957	.12	.22	2.21	7.33	4.63	2.67	4.11	2.63	1.37	.36	.17	.68	26.50
1958	.37	3.50	5.03	2.28	2.10	2.21	4.14	2.93	.83	.74	.72	.41	25.26
1959	.29	.62	.49	2.26	3.00	2.09	2.43	.92	.73	.31	.44	.52	14.10
1960	.41	1.10	2.83	2.08	3.39	3.92	1.64	.69	1.65	1.08	.37	.34	19.50

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,501	38.34
1951	1205	813,000	Feb. 2, 1951	91	1,126	2.12	28.78	1,419	36.26
1952	1235	70,000	Mar. 23, 1952	52	1,307	2.46	33.53	856	21.97
1953	1275	7,850	May 18, 1953	26	589	1.11	15.05	574	14.66
1954	1335	14,200	Apr. 17, 1954	22	599	.751	10.20	500	12.78
1955	1385	38,600	Mar. 22, 1955	46	930	1.75	23.76	854	21.83
1956	1435	32,700	Jan. 30, 1956	45	866	1.63	22.21	924	23.68
1957	1505	42,800	Jan. 30, 1957	41	1,037	1.95	26.50	1,284	32.85
1958	1555	17,700	Nov. 18, 1957	80	988	1.86	25.26	695	17.76
1959	1625	9,340	Feb. 15, 1959	72	551	1.04	14.10	666	17.04
1960	1705	11,200	June 29, 1960	71	761	1.43	19.50	-	-

a About.

3135. West Bays Fork at Scottsville, Ky.

Location.--Lat 36°44'53", long 86°11'47", on downstream side of left abutment of bridge on U.S. Highway 31E, 0.5 mile southwest of Scottsville, Allen County, and 6.4 miles upstream from mouth.

Drainage area.--7.47 sq mi.

Records available.--October 1950 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 637.61 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Aug. 27, 1952, wire-weight gage at same site and datum.

Average discharge.--10 years (1950-60), 10.5 cfs.

Extremes.--1950-60: Maximum discharge, 1,720 cfs Nov. 18, 1957 (gage height, 6.06 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of peak flow; maximum gage height, 6.09 ft Mar. 22, 1952; no flow at times during some years.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.77	22.6	13.7	41.7	45.7	30.5	20.3	3.11	4.94	1.24	2.61	15.5	16.8
1952	5.55	19.9	60.2	34.6	14.9	54.2	7.29	2.50	.58	1.25	.06	.92	16.8
1953	.48	.45	1.15	15.0	9.97	23.1	10.8	18.9	8.01	3.93	.25	.26	7.70
1954	.22	.59	.87	13.7	8.55	10.3	16.7	4.66	3.04	1.18	.19	3.72	5.28
1955	2.49	.80	8.74	5.52	36.9	57.0	8.69	6.40	5.33	.78	.26	.27	11.0
1956	.51	.97	.71	10.8	48.9	19.6	13.7	7.75	2.14	.94	.71	.43	8.76
1957	.35	.53	6.19	46.3	29.8	15.0	14.1	11.0	3.30	2.13	.66	1.80	10.8
1958	.73	20.0	27.0	13.8	12.0	11.0	16.8	16.3	7.52	2.67	2.07	1.82	11.0
1959	1.01	2.29	2.94	20.8	29.9	9.41	8.04	6.54	3.54	2.18	1.43	.95	7.26
1960	4.47	6.75	18.3	11.0	21.2	19.1	8.30	3.13	11.6	8.69	1.81	2.15	9.67

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.27	3.38	2.11	6.43	6.37	4.71	3.03	0.48	0.74	0.19	0.40	2.32	30.43
1952	.55	2.97	9.30	5.35	2.16	8.36	1.09	.39	.09	.20	.009	.14	30.61
1953	.07	.07	.18	2.31	1.39	3.57	1.61	2.91	1.20	.61	.04	.04	14.00
1954	.03	.09	.13	2.11	1.19	1.60	2.49	.72	.45	.18	.03	.56	9.58
1955	.38	.12	1.35	.85	5.15	8.80	1.30	.99	.80	.12	.04	.04	19.94
1956	.08	.15	.11	1.67	7.06	3.30	2.04	1.20	.32	.14	.11	.06	15.97
1957	.05	.08	.96	7.15	4.15	2.31	2.11	1.69	.49	.33	.10	.27	19.69
1958	.11	2.98	4.17	2.13	1.68	1.70	2.52	2.52	1.12	.41	.32	.27	19.93
1959	.16	.34	.44	3.21	4.17	1.45	1.20	1.01	.53	.34	.22	.14	13.21
1960	.69	1.01	2.82	1.70	3.06	2.95	1.24	.48	1.73	1.34	.28	.32	17.62

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205,1435	1,490	Jan. 14, 1951	0	16.8	2.25	30.43	20.6	37.49
1952	1235	1,640	Mar. 22, 1952	0	16.8	2.25	30.61	9.93	18.11
1953	1275	1,600	June 16, 1953	.1	7.70	1.03	14.00	7.66	13.93
1954	1335,1555	780	Sept. 20, 1954	0	5.28	.707	9.58	6.16	11.18
1955	1385,1555	1,590	Mar. 21, 1955	.1	11.0	1.47	19.94	10.1	18.43
1956	1435	1,500	Feb. 17, 1956	.1	8.76	1.17	15.97	9.18	16.71
1957	1505	1,510	Jan. 29, 1957	.2	10.8	1.45	19.69	14.2	25.86
1958	1555	1,720	Nov. 18, 1957	.4	11.0	1.47	19.93	7.48	13.61
1959	1625	1,700	Feb. 10, 1959	.5	7.26	.972	13.21	9.23	16.79
1960	1705	1,620	June 28, 1960	.4	9.67	1.29	17.62	-	-

3140. Drakes Creek near Alvaton, Ky.

Location.--Lat 36°53'42" (revised), long 86°23'21" (revised), on right bank at downstream side of abandoned bridge, 0.5 mile upstream from U.S. Highway 231 (revised), 2.5 miles northwest of Alvaton, Warren County, and 4.8 miles downstream from Trammel Fork.

Drainage area.--478 sq mi (revised), of which about 120 sq mi does not contribute directly to surface runoff.

Records available.--October 1939 to September 1960. Monthly discharge only for October, November 1939, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 443.07 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Dec. 19, 1940, wire-weight gage at site 0.5 mile downstream at different datum.

Average discharge.--21 years (1939-60), 688 cfs.

Extremes.--1939-60: Maximum discharge, 34,300 cfs Jan. 29, 1957 (gage height, 31.54 ft); minimum, 9 cfs Sept. 28, 1941 (gage height, 2.79 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	158	670	777	1,937	3,828	1,977	1,242	291	273	221	174	194	959
1952	61.7	1,790	3,415	1,853	1,120	2,976	460	276	117	158	55.0	72.3	1,017
1953	45.0	64.0	150	862	856	1,507	638	1,426	426	212	63.3	26.2	523
1954	20.3	42.7	42.2	829	610	666	980	431	233	74.1	39.8	93.6	336
1955	119	46.2	381	322	2,207	3,189	742	518	402	137	78.4	43.0	674
1956	87.2	87.9	81.0	929	3,264	1,242	1,102	541	149	89.8	127	56.1	635
1957	47.9	44.0	360	2,660	2,309	1,124	1,446	1,065	552	184	84.0	138	825
1958	120	1,800	2,096	826	836	974	1,492	1,155	327	336	321	126	867
1959	75.9	134	176	1,151	1,545	701	553	381	294	111	151	211	450
1960	148	536	1,209	835	1,390	1,317	576	222	629	425	102	76.7	620

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.38	1.56	1.87	4.67	8.34	4.77	2.90	0.70	0.64	0.53	0.42	0.45	27.23
1952	.15	4.18	8.24	3.99	2.53	7.18	1.07	.67	.27	.38	.13	.17	28.96
1953	.11	.15	.36	2.08	1.86	3.63	1.49	3.44	.99	.51	.15	.06	14.83
1954	.05	.10	.10	2.00	1.33	1.61	2.29	1.04	.54	.18	.10	.22	9.56
1955	.29	.11	.92	.78	4.81	7.69	1.73	1.25	.94	.33	.19	.10	19.14
1956	.21	.20	.20	2.24	7.37	2.99	2.57	1.31	.35	.22	.31	.13	18.10
1957	.12	.10	.87	6.42	5.03	2.71	3.37	2.57	1.29	.44	.20	.32	23.44
1958	.29	4.20	5.05	2.00	1.82	2.35	3.48	2.79	.76	.81	.77	.29	24.61
1959	.18	.31	1.43	2.78	3.56	1.69	1.29	.92	.69	.27	.36	.49	12.77
1960	.36	1.25	2.92	2.01	3.14	3.18	1.34	.54	1.47	1.03	.25	.18	17.67

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,359	38.59
1951	1205	12,600	Jan. 4, 1951	46	959	2.01	27.23	1,267	35.99
1952	1235	30,000	Mar. 23, 1952	25	1,017	2.13	28.96	597	17.01
1953	1275	7,930	Mar. 4, 1953	22	523	1.09	14.83	510	14.46
1954	1335	7,810	Jan. 21, 1954	10	336	.703	9.56	374	10.65
1955	1385	27,200	Mar. 22, 1955	24	674	1.41	19.14	649	18.43
1956	1435	21,700	Jan. 30, 1956	17	635	1.33	18.10	652	18.58
1957	1505	34,300	Jan. 29, 1957	18	825	1.73	23.44	1,123	31.89
1958	1555	22,400	Nov. 19, 1957	37	867	1.81	24.61	563	15.99
1959	1625	13,600	Jan. 22, 1959	40	450	.941	12.77	577	16.38
1960	1705	12,800	June 29, 1960	40	620	1.30	17.67	-	-

3145. Barren River at Bowling Green, Ky.

Location.--Lat 37°00'04", long 86°25'51", on downstream side of College Street Bridge, 600 ft downstream from bridge on U.S. Highways 31W and 68 at Bowling Green, Warren County, 800 ft upstream from Louisville and Nashville Railroad bridge, 6 miles downstream from Drakes Creek, and 8.9 miles upstream from Jennings Creek.

Drainage area.--1,848 sq mi (revised), of which about 490 sq mi does not contribute directly to surface runoff.

Records available.--June 1938 to September 1960. Gage-height records collected in vicinity since 1901 are contained in reports of U.S. Weather Bureau (prior to 1940 records are for site about 7 miles downstream and are fragmentary prior to July 1924).

Gage.--Water-stage recorder. Datum of gage is 409.83 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to June 21, 1944, wire-weight gage at same site and datum. Auxiliary staff gage at Tennessee Valley Authority steam power-plant, 7.7 miles downstream. Aug. 10, 1939, to Dec. 31, 1942, auxiliary water-stage recorder or wire-weight gage at site 8.0 miles downstream from base gage.

Average discharge.--22 years (1938-60), 2,425 cfs.

Extremes.--1938-60: Maximum discharge, 77,400 cfs Mar. 24, 1952; maximum gage height, 44.53 ft Mar. 24, 1952; minimum discharge, 44 cfs Sept. 19, 20, 1954 (gage height, 4.03 ft).

Maximum stage known, 52.2 ft Jan. 8, 1913, from floodmarks.

Remarks.--Records of chemical analyses for the period October 1959 to September 1960; water temperatures for the period October 1949 to September 1960; and suspended sediment loads for the period November 1952 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	766	2,913	2,672	7,123	11,040	6,985	4,563	993	765	666	607	637	3,259
1952	311	5,932	11,140	6,365	4,037	10,920	1,646	1,004	633	390	199	224	3,580
1953	150	220	411	2,563	2,622	4,466	2,121	5,076	976	594	308	68.1	1,632
1954	69.5	129	199	2,911	1,506	2,034	3,946	1,479	818	286	123	339	1,147
1955	415	234	1,852	1,488	7,777	11,950	2,670	1,584	1,709	422	304	112	2,498
1956	453	289	304	1,704	13,140	5,091	4,088	1,963	438	602	397	164	2,339
1957	126	157	1,718	7,698	8,653	3,655	4,758	2,997	1,733	503	217	695	2,704
1958	383	4,600	6,788	2,979	3,182	3,081	5,651	4,319	1,414	1,118	967	524	2,914
1959	250	480	763	3,618	4,852	2,548	2,474	1,090	1,013	449	733	967	1,581
1960	552	1,677	3,902	3,079	4,786	5,080	2,411	850	2,014	1,909	386	289	2,238

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.48	1.76	1.67	4.44	6.22	4.36	2.75	0.62	0.46	0.42	0.38	0.38	23.94
1952	.19	3.58	6.95	3.97	2.36	6.81	1.99	.45	.38	.24	.12	.14	28.36
1953	.09	.13	.26	1.60	1.48	2.79	1.28	3.17	.59	.37	.19	.04	11.99
1954	.04	.08	.12	1.82	.85	1.27	2.38	.92	.49	.17	.08	.20	8.42
1955	.26	.14	1.16	.93	4.38	7.45	1.61	.66	1.03	.26	.19	.07	18.34
1956	.28	.17	.19	1.06	7.67	3.18	2.47	1.22	.26	.38	.25	.10	17.23
1957	.08	.09	1.07	4.80	4.88	2.28	2.87	1.87	1.05	.31	.14	.42	19.86
1958	.24	2.78	4.23	1.86	1.79	1.92	3.41	2.69	.85	.70	.60	.32	21.39
1959	.16	.29	.48	2.26	2.73	1.59	1.49	.68	.61	.28	.46	.58	11.61
1960	.34	1.01	2.43	1.92	2.79	3.17	1.46	.53	1.22	1.19	.24	.17	16.47

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	4,586	33.69
1951	1205	21,800	Jan. 5, 1951	197	3,259	1.76	23.94	4,188	30.75
1952	1235	77,400	Mar. 24, 1952	77	5,580	1.94	26.36	2,189	16.12
1953	1275	19,500	May 20, 1953	59	1,632	.853	11.99	1,600	11.75
1954	1335	19,200	Apr. 19, 1954	45	1,147	.621	8.42	1,325	9.74
1955	1385	55,100	Mar. 23, 1955	74	2,498	1.35	18.34	2,374	17.42
1956	1435	38,000	Feb. 19, 1956	69	2,339	1.27	17.23	2,421	17.83
1957	1505	66,100	Jan. 30, 1957	67	2,704	1.46	19.86	3,522	25.87
1958	1555	30,700	Nov. 20, 1957	172	2,914	1.58	21.39	2,052	15.07
1959	1625	21,300	Jan. 23, Feb. 16, 1959	180	1,581	.856	11.61	1,971	14.46
1960	1705	19,400	June 29, 1960	95	2,258	1.21	16.47	-	-

3155. Green River at lock 4, at Woodbury, Ky.

Location.--Lat 37°10'56", long 86°37'48", on left bank 0.1 mile upstream from lock 4, at Woodbury, Butler County, 0.4 mile downstream from Barren River, and at mile 149.1.

Drainage area.--5,403 sq mi (revised), of which about 1,360 sq mi does not contribute directly to surface runoff.

Records available.--December 1936 to February 1937 (in WSP 838), October 1937 to September 1950. Gage-height records collected at same site since 1917 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 389.60 ft above mean sea level, adjustment of 1912. Prior to September 1940, staff gage at site 0.1 mile downstream at lock 4, at same datum. Auxiliary water-stage recorder 7.8 miles downstream; prior to Oct. 1, 1955, staff or wire-weight gages 6.0 and 7.8 miles downstream.

Average discharge.--23 years (1937-60), 7,677 cfs.

Extremes.--1936-60: Maximum discharge, 205,000 cfs Jan. 25, 1937, from rating curve extended above 120,000 cfs; maximum gage height, 43.1 ft Jan. 25, 1937; minimum daily discharge, 200 cfs Sept. 14-16, 1954.

Flood of Jan. 11, 1913, reached a stage of 38.5 ft.

Remarks.--Records of water temperatures for the period October 1958 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,673	10,040	10,920	27,420	32,750	20,900	12,590	3,581	2,362	2,999	1,797	2,591	10,750
1952	1,271	19,480	37,750	21,010	13,190	34,780	6,115	3,447	1,965	1,236	770	608	11,850
1953	440	681	1,676	8,245	6,932	16,600	7,817	18,620	2,408	1,717	895	330	5,549
1954	280	510	584	8,370	4,095	5,179	10,030	5,087	3,120	841	645	1,304	5,326
1955	1,265	856	5,175	4,368	22,200	34,370	7,294	4,735	7,071	2,149	1,566	510	7,551
1956	1,763	1,748	1,679	4,009	41,670	16,950	14,090	5,710	1,602	2,599	1,779	548	7,697
1957	581	625	5,480	14,910	29,440	10,460	19,740	7,861	5,574	1,826	819	1,617	8,085
1958	1,207	23,550	21,220	10,160	10,720	9,424	15,010	13,580	3,344	7,523	5,415	1,996	10,250
1959	865	1,533	2,511	13,080	13,670	8,368	7,595	4,554	2,873	2,945	2,544	2,099	5,169
1960	1,485	4,432	12,630	11,290	15,470	15,940	7,642	2,475	6,289	6,305	1,254	1,514	7,207

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.57	2.07	2.33	5.85	6.31	4.46	2.60	0.76	0.49	0.64	0.38	0.54	27.00
1952	.27	4.02	8.05	4.48	2.63	7.42	1.26	.74	.41	.26	.16	.13	29.83
1953	.09	.14	.36	1.76	1.34	3.54	1.61	3.97	.50	.37	.19	.07	13.94
1954	.06	.11	.12	1.79	.79	1.11	2.07	1.09	.64	.18	.14	.27	8.37
1955	.27	.18	1.10	.93	4.28	7.33	1.51	1.01	1.46	.46	.33	.11	18.97
1956	.38	.36	.36	.86	8.32	3.62	2.91	1.22	.33	.55	.38	.11	19.40
1957	.12	.13	1.17	3.18	5.67	2.23	4.08	1.68	1.15	.39	.17	.33	20.30
1958	.26	4.86	4.53	2.17	2.07	2.01	3.10	2.90	.69	1.61	1.16	.41	25.77
1959	.18	.32	.54	2.79	2.63	1.79	1.57	.97	.59	.63	.54	.43	12.98
1960	.32	.92	2.69	2.41	3.09	3.40	1.58	.53	1.30	1.35	.27	.31	18.17

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	58,600	Jan. 17, 1951	675	10,750	1.99	27.00	15,040	37.78
1952	1235	106,000	Mar. 26, 1952	370	11,850	2.19	29.83	13,680	34.37
1953	1275	51,700	May 21, 1953	280	5,549	1.03	13.94	7,190	18.08
1954	1335	34,900	Apr. 19, 1954	200	3,326	.616	8.37	5,428	13.64
1955	1385	72,000	Mar. 25, 1955	250	7,551	1.40	18.97	3,828	9.63
1956	1435	65,800	Feb. 21-22, 1956	317	7,697	1.42	19.40	7,369	18.52
1957	1505	77,400	Feb. 1, 1957	304	8,085	1.50	20.30	7,569	18.52
1958	1555	80,500	Nov. 21, 1957	564	10,250	1.90	25.77	11,360	28.53
1959	1625	48,700	Jan. 24, 1959	499	5,169	.957	12.98	8,824	17.16
1960	1705	36,800	July 1, 1960	408	7,207	1.33	18.17	6,319	15.87

3160. Mud River near Lewisburg, Ky.

Location--Lat 37°00'14", long 86°54'26", at bridge on State Highway 106, 2½ miles north-east of Lewisburg, Logan County, 7½ miles downstream from Motts Lick Creek, and 14 miles upstream from Wolf Lick Creek.

Drainage area--90.5 sq mi (revised), of which about 9 sq mi does not contribute directly to surface runoff.

Records available--October 1939 to September 1960. Prior to December 1939 monthly discharge only, published in WSP 1305.

Gage--Wire-weight gage. Datum of gage is 409.05 ft above mean sea level, datum of 1929. Prior to Oct. 23, 1941, wire-weight gage at same site and datum. Oct. 23, 1941, to Dec. 4, 1957, staff gage 100 ft upstream at same datum.

Average discharge--21 years (1939-60), 150 cfs.

Extremes--1939-60: Maximum discharge, 12,200 cfs Nov. 18, 1957 (gage height, 22.53 ft, from floodmark); no flow at times in most years.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	25.8	247	284	703	622	414	227	29.9	94.1	104	11.0	22.8	230
1952	9.21	539	846	411	231	685	66.3	16.9	4.77	1.16	0	.13	235
1953	3.63	5.23	35.3	210	157	486	170	481	14.7	14.5	2.27	.007	132
1954	0	3.32	9.93	274	140	110	171	131	172	15.0	5.40	44.7	89.2
1955	27.6	3.99	150	73.2	621	674	237	182	107	9.75	30.1	1.60	174
1956	11.7	17.6	25.5	282	891	362	308	102	6.29	3.76	21.7	0	166
1957	.25	3.93	29.0	420	455	149	342	311	81.7	5.44	4.50	0	148
1958	5.50	668	519	162	137	303	306	206	42.7	41.3	41.4	18.7	204
1959	9.25	25.5	32.6	251	240	134	91.1	70.9	55.0	5.44	7.41	3.70	76.2
1960	5.51	12.0	121	157	230	274	109	27.9	262	90.2	11.7	3.66	108

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.33	3.04	3.62	8.95	7.15	5.28	2.80	0.38	1.16	1.32	0.14	0.28	34.45
1952	.12	6.64	10.75	5.23	2.75	8.72	.82	.22	.06	.01	0	.002	35.35
1953	.05	.06	.45	2.68	1.81	6.19	2.10	6.12	.18	.19	.03	.00008	19.86
1954	0	.04	.13	3.49	1.62	1.40	2.11	1.66	2.12	.19	.07	.55	13.38
1955	.35	.05	1.91	.93	7.15	8.59	2.92	2.31	1.32	.12	.38	.02	26.05
1956	.15	.22	.32	3.59	10.61	4.62	3.80	1.30	.08	.05	.28	0	25.02
1957	.003	.05	.37	5.36	5.23	1.89	4.22	3.96	1.01	.07	.06	0	22.22
1958	.07	8.25	6.61	2.06	1.58	5.86	5.77	2.63	.53	.53	.53	.23	30.65
1959	.12	.31	.42	3.19	2.76	1.71	1.12	.90	.68	.07	.09	.05	11.42
1960	.07	.15	1.54	2.00	2.74	3.43	1.35	.36	3.23	1.15	.15	.05	16.28

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	351	52.66
1951	1205	5,580	Jan. 14, 1951	3.4	230	2.54	34.45	300	45.00
1952	1235	9,600	Mar. 22, 1952	0	235	2.60	35.35	122	18.37
1953	1275	3,620	Mar. 4, 1953	0	132	1.46	19.86	130	19.47
1954	1335	2,900	June 3, 1954	0	89.2	.986	13.38	104	15.52
1955	1385	3,720	Mar. 22, 1955	0	174	1.32	26.05	163	24.43
1956	1435	5,840	Feb. 18, 1956	0	166	1.83	25.02	165	24.75
1957	1505	4,880	Apr. 4, 1957	0	148	1.64	22.22	245	36.71
1958	1555	12,200	Nov. 18, 1957	0	204	2.25	30.65	110	16.57
1959	1625	3,000	Jan. 22, 1959	1.7	76.2	.842	11.42	82.3	12.33
1960	1705	7,800	June 28, 1960	1.3	108	1.13	16.28	-	-

Location.--Lat 37°12'49", long 86°54'01", on right bank at lock 3, 0.1 mile downstream from Mud River, 0.4 mile west of Rochester, Butler County, 6 miles southeast of Paradise, Muhlenberg County, and at mile 108.5.

Records available.--October 1939 to September 1950. Published as "at Green River" October 1959 to September 1960 (low-water records only) at lock 3.

Average discharge.--11 years (1939-50), 8,532 cfs.

Extremes.--1939-50: Maximum discharge, 89,300 cfs Jan. 14, 1950; maximum gage height, 38.3 ft Jan. 15, 1950, from graph based on gage readings (site and datum then in use); minimum discharge observed, 250 cfs Oct. 23, 24, 1940.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	1,613	4,454	-	-	-	-	9,005	2,761	6,316	7,655	1,332	1,617	-

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	0.30	0.81	-	-	-	-	1.64	0.52	1.15	1.44	0.25	0.29	-

Location.--Lat 37°35'31", long 86°19'46", on upstream side of bridge near center of span on State Highway 65 at Everleigh, 1.5 miles southeast of Madrid, Breckinridge County, and 7½ miles downstream from Clifty Creek.

Records available.--May 1938 to September 1959.

Gage.--Wire-weight gage. Datum of gage is 466.08 ft above mean sea level, datum of 1929.

Average discharge.--21 years (1938-59), 318 cfs.

Extremes--1938-59: Maximum discharge, 14,800 cfs Nov. 19, 1957 (gage height, 40.54 ft, from floodmark); minimum daily, 7.0 cfs Oct. 24-26, 1953, but may have been less in November 1958 (caused by construction work).
Flood of Jan. 19, 1937, reached a stage of 38.6 ft, from floodmarks (discharge, 13,200 cfs, revised).

Revisions.--The momentary maximum discharge for Jan. 19, 1937, published in WSP 1305, was revised to 13,200 cfs in WSP 1625.

[illegible]

GREEN RIVER BASIN

Monthly and yearly runoff, in inches, of Rough River near Madrid, Ky.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.44	2.64	2.95	7.22	4.80	4.33	2.28	0.55	0.73	0.68	0.34	0.39	27.33
1952	.32	3.75	7.67	4.22	1.97	7.17	1.23	.75	.39	.15	.15	.09	27.86
1953	.07	.09	.82	2.07	.81	4.79	1.50	4.55	.46	.37	.12	.06	15.71
1954	.05	.09	.12	.70	.50	.64	1.06	.73	.22	.14	.25	.38	4.88
1955	.21	.08	.96	.71	5.77	4.86	1.24	.84	1.06	.37	.31	.18	16.59
1956	.21	.43	.41	1.57	7.80	3.87	1.74	.81	.56	1.33	.30	.13	19.16
1957	.16	.35	1.14	3.24	2.46	1.39	4.61	3.69	2.91	1.11	.22	.13	21.41
1958	.19	6.47	4.71	1.76	1.52	1.83	3.10	2.17	.68	2.83	1.26	.27	26.79
1959	.10	.22	.31	3.21	1.75	1.26	.98	1.45	.62	.41	.23	.50	11.04
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	653	39.42
1951	1205	12,200	Jan. 15, 1951	25	453	2.01	27.33	548	33.04
1952	1235	13,800	Mar. 22, 1952	13	461	2.05	27.86	283	17.10
1953	1275	8,140	Mar. 4, 1953	8.0	280	1.16	15.71	248	14.99
1954	1335	11,920	Sept. 21, 1954	7.0	80.9	1.560	4.88	97.4	5.87
1955	1385	6,640	Feb. 22, 1955	13	275	1.22	16.59	272	16.39
1956	1435	7,570	Feb. 3, 1956	15	317	1.41	19.16	327	19.76
1957	1505	8,930	Apr. 4, 1957	16	355	1.58	21.41	516	31.13
1958	1555	14,800	Nov. 19, 1957	16	444	1.97	26.79	266	16.05
1959	1625	7,070	Jan. 22, 1959	-	183	.813	11.04	-	-
1960	-	-	-	-	-	-	-	-	-

a May have been greater during period of no gage-height record, Apr. 16, 17.

3175. North Fork Rough River near Westview, Ky.

Location.--Lat 37°41'32", long 86°23'29", on left bank 25 ft downstream from bridge on State Highway 520, 1.0 mile southeast of Westview, Breckinridge County, and 2.1 miles downstream from Buffalo Creek.

Drainage area.--42.0 sq mi, of which about 19 sq mi does not contribute directly to surface runoff.

Records available.--May 1954 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 500.88 ft above mean sea level, datum of 1929.

Average discharge.--6 years (1954-60), 38.0 cfs.

Extremes.--1954-60: Maximum discharge, 3,170 cfs Jan. 21, 1959 (gage height, 18.57 ft); no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	7.94	1.60	0.56	3.79	6.99	-
1955	7.13	1.02	29.0	20.8	150	101	32.8	55.6	34.9	9.86	2.44	3.25	36.6
1956	1.74	7.02	8.66	31.9	278	96.0	56.2	33.2	15.3	67.4	8.32	.43	49.4
1957	.33	6.12	11.2	55.7	64.7	33.9	89.3	93.0	56.2	5.49	2.34	.30	34.6
1958	1.12	118	111	47.5	37.4	78.6	87.9	74.4	7.58	21.2	11.1	6.04	50.2
1959	2.59	6.64	8.67	101	59.5	30.0	18.8	78.2	8.59	2.30	2	8.2	27.1
1960	5.30	17.3	62.9	61.8	79.7	68.4	25.0	14.2	21.9	5.13	.41	.48	30.1

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	1335	1,549	Sept. 21, 1954	-	-	-	-	-	-
1955	1385	1,470	Mar. 21, 1955	0.3	36.6	-	-	34.9	-
1956	1435	2,280	Feb. 15, 1956	0	49.4	-	-	49.5	-
1957	1505	2,210	May 22, 1957	0	34.6	-	-	52.4	-
1958	1555	2,520	Nov. 18, 1957	.3	50.2	-	-	32.5	-
1959	1625	3,170	Jan. 21, 1959	-	27.1	-	-	32.8	-
1960	1705	1,210	Jan. 14 or 15	.1	30.1	-	-	-	-

a Maximum for period May to September.

3180. Rough River near Falls of Rough, Ky.

Location.--Lat 37°36'33", long 86°29'47", on right bank 2.6 miles downstream from North Fork, 3½ miles northeast of Falls of Rough, Grayson County, 4.1 miles upstream from Rock Lick Creek, and 7.1 miles upstream from milldam and low-water gage.

Drainage area.--454 sq mi (revised), at site of base gage, of which about 110 sq mi does not contribute directly to surface runoff; 504 sq mi (revised), at site of low-water gage, of which about 110 sq mi does not contribute directly to surface runoff.

Records available.--October 1939 to September 1956 (high-water records only). Prior to January 1940 monthly discharge only, published in WSP 1305. Prior to October 1951, published records of low flows are for site "at Falls of Rough," 7.1 miles downstream.

Gage.--Water-stage recorder. Datum of gage is 429.20 ft above mean sea level, datum of 1929. Prior to July 10, 1940, staff gage at same site and datum. Low-water gage for this station is water-stage recorder for station at Falls of Rough.

Extremes.--1940-56: Maximum discharge, 13,700 cfs Mar. 23, 1952; maximum gage height, 30.07 ft Mar. 23, 1952.

Remarks.--Low flow regulated by milldam 7.1 miles downstream. Low-water records, generally below about 1,000 cfs, are obtained downstream from milldam at Falls of Rough and include flow of Rock Lick Creek.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	120	1,005	1,245	2,696	2,178	1,723	979	207	270	265	118	185	909

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1950	-	-	-	-	-	-	-	-
1951	1205	11,600	Jan. 15, 1951	30	909	-	-	1,377
1952	1235	13,700	Mar. 23, 1952	-	-	-	-	-
1953	1275	8,470	May 18, 1953	-	-	-	-	-
1954	1335	2,710	Apr. 17, 1954	-	-	-	-	-
1955	1385	7,100	Mar. 22, 1955	-	-	-	-	-
1956	1435	8,800	Feb. 3, 1956	-	-	-	-	-
1957	-	-	-	-	-	-	-	-
1958	-	-	-	-	-	-	-	-
1959	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-

3180.05. Rough River Reservoir near Falls of Rough, Ky.

Location.--Lat 37°37'11", long 86°29'59", in intake structure of Rough River Dam on Rough River, Breckinridge County, 3.0 miles upstream from Cane Run, 3.1 miles northeast of Falls of Rough, Grayson County, and at mile 89.3.

Drainage area.--454 sq mi, of which about 110 sq mi does not contribute directly to surface runoff.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to June 30, 1960, staff gage at same site and datum.

Extremes.--1959-60: Maximum contents, 23,110 acre-ft July 5, 1960 (elevation, 466.67 ft); minimum since reaching minimum pool elevation of 465.00 ft, 12,650 acre-ft Sept. 2, 1960 (elevation, 459.92 ft), storage restricted by clearing work in reservoir.

Remarks.--Reservoir is formed by rolled earthfill dam. Releases controlled by three gates, 4.75 ft wide and 9.5 ft high, in semi-elliptical concrete conduit through dam with inlet invert elevation at 430.00 ft, contents 92 acre-ft. Total capacity at ungated spillway level, elevation 524.00 ft, is 334,400 acre-ft, of which a maximum of 314,200 acre-ft (contents between elevations 465.00 and 524.00 ft) or a minimum of 214,400 acre-ft (contents between elevations 495.00 and 524.00 ft) is reserved for flood control depending on season. Contents of 99,840 acre-ft between elevations 465.00 and 495.00 ft is available for seasonal low flow augmentation. Capacity at minimum pool elevation, 465.00 ft, is 20, 170 acre-ft. Reservoir is used for flood control, low flow augmentation, and recreation. Figures of contents include dead storage below invert of conduit. Gates closed and storage began Oct. 1, 1959.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1959	-	-	-	-	-	-	-	-	-	-	-	327
1960	4,030	2,820	3,860	3,800	3,630	4,880	3,910	3,840	19,120	12,860	12,730	12,950

Note.--Contents at 12 p.m.

3182. Rock Lick Creek near Glen Dean, Ky.

Location.--Lat 37°39'24", long 86°33'43", on left bank 8 ft downstream from old bridge abutments on abandoned county road, 0.5 mile downstream from Black Lick Creek, 1.2 miles west of Glen Dean, Breckinridge County, and 7.0 miles upstream from mouth.

Drainage area.--20.1 sq mi.

Records available.--October 1956 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 448.29 ft above mean sea level, datum of 1929. Prior to Jan. 8, 1957, wire-weight gage at same site and datum.

Extremes.--1956-60: Maximum discharge, 8,720 cfs Jan. 21, 1959 (gage height, 18.36 ft). From rating curve extended above 1,700 cfs on basis of slope-area measurement of peak flow; no flow at times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	0.35	6.04	10.3	37.5	44.6	18.7	66.6	94.0	28.2	1.44	0.15	0	25.5
1958	.12	83.1	80.3	32.9	21.6	37.1	43.7	35.7	4.11	9.31	6.50	3.12	29.8
1959	.91	8.05	7.97	82.4	†40.8	23.1	10.2	75.5	13.1	.69	.73	7.05	22.4
1960	2.71	22.2	55.3	40.5	51.2	50.3	16.3	12.5	13.0	3.96	1.25	.57	22.4

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	0.02	0.34	0.59	2.15	2.31	1.07	3.70	5.39	1.57	0.08	0.009	0	17.23
1958	.007	4.61	4.61	1.89	1.12	2.13	2.43	2.05	.23	.53	.37	.17	20.15
1959	.05	.45	.46	4.72	2.11	1.33	.56	4.22	.73	.04	.04	.39	15.10
1960	.16	1.23	3.17	2.32	2.74	2.89	.90	.72	.72	.23	.07	.03	15.18

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1957	1555	4,730	May 22, 1957	0	25.5	1.27	17.23	37.8	25.51		
1958	1555	2,210	Nov. 18, 1957	0	29.8	1.45	20.15	17.6	11.88		
1959	1625	8,720	Jan. 21, 1959	.1	22.4	1.11	15.10	27.7	18.70		
1960	1705	1,750	Jan. 14, 1960	.1	22.4	1.11	15.18	-	-		

3185. Rough River at Falls of Rough, Ky.

Location.--Lat 37°35'20", long 86°33'05", on left bank 150 ft downstream from bridge on State Highway 110 at Falls of Rough, Grayson County, 3.0 miles downstream from Rock Lick Creek, and 6½ miles downstream from Rough River Dam.

Drainage area.--504 sq mi (revised), of which about 110 sq mi does not contribute directly to surface runoff.

Records available.--October 1939 to September 1960 (low-water periods only prior to October 1948, published as "near Falls of Rough"). Prior to January 1940 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 420.94 ft above mean sea level, datum of 1929. July 12, 1940, to June 27, 1941, staff gage at datum 1.79 ft lower and June 27, 1941, to Oct. 21, 1948, water-stage recorder at datum 2.79 ft lower, at site 1,000 ft downstream.

Average discharge.--12 years (1948-60), 771 cfs (unadjusted).

Extremes.--1940-60: Maximum discharge, 12,400 cfs Jan. 14, 1950 (gage height, 28.87 ft); minimum daily, 6 cfs Aug. 13, 1944.

Floods of Jan. 12, 1913, March 1935, and Jan. 25, 1937, reached stages of 28.96, 29.31, and 34.06 ft, respectively, from floodmarks. Flood in 1915 reached a stage of 28.93 ft, from floodmark.

Remarks.--Flow regulated by Rough River Reservoir since October 1957 (high flow only regulated prior to Oct. 1, 1959). Low flow regulated by small gristmill 100 ft upstream from gage. Records of water temperatures and suspended-sediment loads for the period October 1952 to September 1956 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	130	1,218	1,464	3,042	2,625	1,936	1,048	192	294	264	114	181	1,033
1952	81.4	1,480	5,425	2,058	1,005	2,864	459	287	156	35.0	53.4	28.9	999
1953	20.4	33.3	353	985	346	2,099	584	1,795	108	84.2	29.3	13.9	543
1954	10.2	18.4	31.3	413	257	260	513	283	78.4	37.4	75.5	130	175
1955	77.2	20.5	395	311	2,620	2,568	522	494	500	132	88.8	47.0	619
1956	73.5	139	127	446	3,781	1,482	692	417	208	507	113	35.3	656
1957	32.8	105	311	1,142	1,030	527	1,945	1,640	858	292	61.6	27.7	681
1958	41.4	2,435	1,949	745	665	759	1,164	1,011	198	786	409	112	857
1959	42.2	101	131	1,574	869	563	383	1,089	336	166	103	284	469
1960	38.2	401	1,193	972	1,307	1,112	456	233	234	250	43.2	63.8	524

Monthly and yearly runoff, in inches (adjusted) $\frac{a}{\text{ft}}$, of Rough River at Falls of Rough, Ky.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.30	2.70	3.35	6.96	5.42	4.43	2.32	0.44	0.65	0.60	0.26	0.40	27.83
1952	.19	3.28	7.83	4.71	2.15	6.55	1.02	.66	.35	.08	.12	.06	27.00
1953	.05	.07	.81	2.25	.72	4.80	1.29	4.11	.24	.19	.07	.05	14.63
1954	.02	.04	.07	.94	.53	.59	1.13	.65	.17	.09	.17	.29	4.69
1955	.18	.05	.90	.71	5.41	5.42	1.13	1.13	.11	.30	.20	.10	16.67
1956	.17	.31	.29	1.02	8.09	5.39	1.53	.95	.46	1.16	.26	.08	17.71
1957	.07	.23	.71	2.61	2.13	1.20	4.30	3.75	1.99	.67	.14	.06	17.77
1958	-	-	-	-	-	-	-	-	-	-	-	-	23.1
1959	-	-	-	-	-	-	-	-	-	-	-	-	22.63
1960	.23	.84	2.77	2.22	2.80	2.58	.97	.53	1.09	.34	.09	.15	14.61

a Adjusted for change in contents in Rough River Reservoir since October 1959.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Observed				Adjusted $\frac{a}{\text{ft}}$		Observed	Adjusted $\frac{a}{\text{ft}}$		
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	1,597	-	43.31
1951	1235	10,900	Jan. 18, 1951	31	1,033	-	-	-	1,217	-	32.78
1952	1235	11,600	Mar. 23, 1952	12	999	-	1.98	27.00	815	-	16.63
1953	1275	8,060	Mar. 5, 1953	11	543	-	1.08	14.63	514	-	13.83
1954	1335	3,000	Apr. 18, 1954	7.4	175	-	3.47	4.69	211	-	5.69
1955	1385	7,140	Mar. 23, 1955	13	619	-	1.23	16.67	606	-	16.31
1956	1435	8,840	Feb. 4, 1956	18	656	-	1.30	17.71	665	-	17.95
1957	1505	10,500	May 24, 1957	16	661	-	1.31	17.77	992	-	28.7
1958	1555	4,900	Nov. 19, 1957	13	857	-	1.70	23.1	510	-	13.75
1959	1625	6,620	Jan. 21, 1959	14	469	-	.331	12.63	585	588	16.86
1960	1705	4,150	Jan. 15, 1960	12	524	541	1.07	14.61	-	-	-

a Adjusted for change in contents in Rough River Reservoir since October 1959.

3188. Caney Creek near Horse Branch, Ky.

Location.--Lat 37°27'50", long 86°39'20", on right bank 9 ft downstream from bridge on U.S. Highway 62, 0.6 mile upstream from Horse Branch, 1.5 miles northeast of village of Horse Branch, Ohio County, and 11.2 miles upstream from mouth.

Drainage area.--124 sq mi, includes that of Horse Branch at U.S. Highway 62.

Records available.--October 1956 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 417.30 ft above mean sea level, datum of 1929. Prior to Nov. 20, 1956, wire-weight gage on downstream side of bridge at same datum.

Extremes.--1956-60: Maximum discharge, about 10,000 cfs Nov. 18, 1957 (gage height, 14.43 ft Nov. 18, 1957, backwater from Rough River or debris); no flow at times each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	3.44	0.61	64.9	423	309	130	617	369	120	7.53	0.18	0	169
1958	1.21	589	507	186	158	202	244	184	7.29	126	18.5	3.53	186
1959	.36	3.46	11.0	382	181	151	84.0	209	67.2	37.0	33.6	57.7	101
1960	13.2	97.6	377	256	354	308	124	26.1	135	84.6	.44	12.7	149

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	0.03	0.005	0.60	3.93	2.60	1.21	5.55	3.43	1.08	0.07	0.002	0	18.51
1958	.01	5.30	4.72	1.73	1.33	1.88	2.20	1.71	.07	1.17	.17	.03	20.32
1959	.003	.03	.10	3.55	1.52	1.40	.76	1.94	.60	.34	.31	.52	11.07
1960	.12	.88	3.51	2.38	3.08	2.87	1.11	.24	1.22	.79	.004	.11	16.31

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1957	1625	9,020	Apr. 4, 1957	0	169	1.36	18.51	255	27.90	
1958	1625	a10,000	Nov. 18, 1957	0	186	1.50	20.32	95.2	10.42	
1959	1625	5,870	Jan. 21, 1959	0	101	.815	11.07	141	15.45	
1960	1705	3,800	June 30, 1960	0	149	1.20	16.31	-	-	

a About.

3190. Rough River near Dundee, Ky.

Location.--Lat 37°32'51", long 86°43'18", on right bank at downstream side of Barretts Ford Bridge, 1.5 miles downstream from Caney Creek and 3 miles southeast of Dundee, Ohio County.

Drainage area.--757 sq mi (revised), of which about 120 sq mi does not contribute directly to surface runoff.

Records available.--October 1939 to September 1960. Prior to February 1940 monthly discharge only, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 393.18 ft above mean sea level, datum of 1929. Prior to Dec. 10, 1940, wire-weight gage at same site and datum. Oct. 1, 1939, to June 30, 1940, auxiliary staff gage at site 6.2 miles downstream; Mar. 28, 1941, to Sept. 30, 1945, auxiliary wire-weight gage at site 1.4 miles upstream; and since Oct. 1, 1950, auxiliary wire-weight gage at site 5.6 miles downstream.

Average discharge.--21 years (1939-60), 951 cfs (unadjusted).

Extremes.--1939-60: Maximum discharge, 20,000 cfs Jan. 14, 1950 (gage height, 28.97 ft); maximum gage height, 29.00 ft Nov. 19, 1957 (backwater from tributary inflow or debris); minimum daily discharge, 8.1 cfs Sept. 19, 20, 1941; minimum gage height observed, 2.92 ft Oct. 28, 1940.

Maximum stage known, 31.8 ft in January 1937, from floodmarks.

Remarks.--Flow regulated by Rough River Reservoir since October 1957 (high flow only regulated prior to Oct. 1, 1959). Records of water temperatures for the period October 1949 to September 1960 at auxiliary gage at State Highway 69 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	141	1,483	1,954	4,301	3,380	2,579	1,551	233	270	335	124	250	1,373
1952	106	1,909	4,622	2,728	1,403	4,284	880	344	160	35.8	49.9	38.7	1,370
1953	28.6	41.3	465	1,503	541	2,925	900	2,568	113	94.0	28.2	15.2	776
1954	13.9	21.5	37.7	645	404	439	840	476	94.0	41.0	88.9	171	271
1955	96.4	20.4	427	479	3,186	3,656	847	752	905	183	140	41.3	880
1956	140	242	213	458	5,528	2,083	1,230	702	291	650	140	36.2	957
1957	44.1	119	427	1,527	1,552	885	2,859	2,471	1,024	383	62.1	28.6	943
1958	45.1	3,190	2,828	1,086	997	1,142	1,510	1,484	206	921	483	120	1,167
1959	49.7	116	153	2,162	1,219	875	548	1,432	552	218	153	426	657
1960	75.8	620	1,781	1,451	1,937	1,888	808	352	418	466	53.5	92.3	809

Monthly and yearly runoff, in inches (adjusted) ^{a/}

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.22	2.19	2.98	6.55	4.65	3.93	2.29	0.36	0.40	0.51	0.19	0.37	24.64
1952	.16	2.81	7.04	4.15	2.00	6.52	1.00	.52	.24	.05	.08	.06	24.63
1953	.04	.06	.71	2.29	.74	4.46	1.33	3.91	.17	.14	.04	.02	13.91
1954	.02	.03	.06	.98	.56	.67	1.24	.73	.14	.06	.14	.25	4.88
1955	.15	.03	.66	.73	4.38	5.57	1.25	1.15	1.33	.28	.21	.06	15.90
1956	.21	.36	.32	.70	7.88	3.17	1.81	1.07	.43	.99	.21	.05	17.20
1957	.07	.18	.65	2.33	2.14	1.35	4.21	3.76	1.51	.58	.09	.04	16.91
1958	-	-	-	-	-	-	-	-	-	-	-	-	20.90
1959	-	-	-	-	-	-	-	-	-	-	-	-	11.78
1960	.21	.88	2.74	2.21	2.76	2.60	1.17	.53	.99	.55	.08	.14	14.86

^a Adjusted for change in contents in Rough River Reservoir since October 1959.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted ^{a/}					Observed		Adjusted ^{a/}
		Momentary		Maximum		Minimum	Mean	Mean	Per square mile	Runoff in inches		Mean	Mean	Runoff in inches
		Discharge	Date		day									
1950	-	-	-	-	-	-	-	-	-	-	-	2,268	-	40.68
1951	1205	14,300	Jan. 16, 1951	46	1,373	-	1.81	24.64	1,631	-	-	1,631	-	29.26
1952	1235	17,600	Mar. 24, 1952	16	1,370	-	1.81	24.63	859	-	-	859	-	15.43
1953	1275	9,790	Mar. 6, 1953	11	776	-	1.03	13.91	737	-	-	737	-	13.21
1954	1335	3,860	Apr. 18, 1954	10	271	-	-	.348	4.88	311	-	311	-	5.61
1955	1385	8,480	Mar. 23, 1955	16	880	-	1.16	15.80	884	-	-	884	-	15.85
1956	1435	11,600	Feb. 3, 1956	17	957	-	1.26	17.20	957	-	-	957	-	17.21
1957	1505	14,600	May 24, 1957	18	943	-	1.25	16.91	1,399	-	-	1,399	-	25.11
1958	1555	18,000	Nov. 19, 1957	18	1,167	-	1.54	20.90	688	-	-	688	-	12.35
1959	1625	9,100	Jan. 23, 1959	20	657	-	-	.868	11.78	839	-	844	-	15.13
1960	1705	5,090	Jan. 17, 1960	14	809	826	1.09	14.86	-	-	-	-	-	-

^a Adjusted for change in contents in Rough River Reservoir since October 1959.

^b About.

3200. Green River at lock 2, at Calhoun, Ky.
(Formerly published as Green River at Livermore)

Location.--Lat 37°32'02", long 87°15'50", on right bank 870 ft upstream from lock and dam 2 at Calhoun, McLean County, 0.4 mile upstream from Long Falls Creek, and at mile 63.2.

Drainage area.--7,564 sq mi (revised), of which about 1,540 sq mi does not contribute directly to surface runoff.

Records available.--March 1930 to September 1960. Published as "at Livermore" 1930-58.

Gage.--Water-stage recorder. Datum of gage is 353.95 ft above mean sea level, datum of 1929, or 354.40 ft above mean sea level, Green River Survey datum. Auxiliary water-stage recorder at Livermore, 8.0 miles upstream at datum 360.11 ft above mean sea level, datum of 1929, adjustment of 1955. Base gages used were: Mar. 22, 1930, to Sept. 30, 1940, and Oct. 1, 1942, to Sept. 30, 1947, water-stage recorder at Livermore, (staff gage prior to Sept. 1, 1939); Oct. 1, 1940, to Sept. 30, 1942, and Oct. 1, 1947, to Sept. 30, 1958, water-stage recorder at State Highway 81 bridge, 0.2 mile upstream from present base gage, at datum 1.35 ft higher than present base gage. Auxiliary gages were: Oct. 1, 1932, to Sept. 30, 1939, upper staff gage at lock 2, at datum 1.35 ft higher than present base gage; Oct. 1, 1939, to Sept. 30, 1940, and Oct. 1, 1942, to Sept. 30, 1947, water-stage recorder at State Highway 81; Oct. 1, 1941, to Sept. 30, 1942, and after Sept. 30, 1947, water-stage recorder at Livermore. No auxiliary gage used prior to Oct. 1, 1932, and Oct. 1, 1940, to Sept. 30, 1941.

Average discharge.--30 years (1930-60), 10,710 cfs (unadjusted).

Extremes.--1930-60: Maximum discharge, 208,000 cfs Jan. 27, 1937; maximum gage height, 42.4 ft Jan. 30, 1937, at site 0.2 mile upstream and datum 1.35 ft higher; minimum discharge, 280 cfs Oct. 5-9, 23-27, 1930, Feb. 2-4, 1931.

Remarks.--Flow regulated by Rough River Reservoir since October 1959. Records of chemical analyses for the period October 1949 to September 1951 and water temperatures for the periods October 1949 to September 1951, July 1953 to September 1954 at Livermore, are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,852	13,590	17,530	40,340	42,830	33,840	17,880	4,061	2,827	3,953	2,043	3,031	15,240
1952	1,528	18,930	49,890	32,930	21,100	34,930	19,040	4,075	2,256	1,419	856	664	15,660
1953	542	797	2,493	12,770	9,230	25,900	11,530	26,910	3,238	2,070	1,052	393	8,111
1954	318	520	669	10,570	5,554	6,995	13,660	6,871	3,858	920	1,136	1,743	4,385
1955	1,550	924	5,141	6,706	27,180	48,520	18,470	7,662	9,361	2,522	2,035	471	10,780
1956	2,112	2,190	2,360	3,306	54,440	32,330	20,860	9,256	2,440	3,766	2,478	998	11,190
1957	885	1,020	6,210	14,330	39,180	14,080	27,180	14,330	8,851	2,434	949	1,689	10,710
1958	1,295	27,710	34,110	14,210	14,800	13,840	18,640	21,110	3,930	8,916	6,724	2,150	13,960
1959	973	1,520	3,062	16,400	19,200	10,860	9,209	6,733	5,470	3,251	3,460	2,915	6,844
1960	1,750	4,960	17,370	17,060	21,140	22,260	11,520	5,573	6,441	10,460	1,579	1,728	9,967

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.43	2.01	2.67	6.15	5.90	5.16	2.64	0.62	0.42	0.60	0.31	0.45	27.36
1952	.23	2.79	7.60	5.02	3.00	5.32	2.81	.62	.33	.22	.13	.10	28.17
1953	.08	.12	.38	1.95	1.27	3.95	1.70	4.10	.48	.32	.16	.06	14.57
1954	.05	.08	.10	1.61	.76	1.07	2.01	1.05	.57	.14	.17	.26	7.87
1955	.24	.14	.78	1.02	3.74	7.40	2.72	1.17	1.38	.38	.31	.07	19.35
1956	.32	.32	.36	.50	7.76	4.93	3.08	1.41	.36	.57	.38	.15	20.14
1957	.13	.16	.95	2.18	5.39	2.15	4.01	2.18	1.31	.37	.14	.25	19.21
1958	.20	4.09	5.20	2.17	2.04	2.11	2.75	3.22	.58	1.36	1.02	.32	25.06
1959	.15	.22	.47	2.50	2.64	1.66	1.36	1.03	.81	.50	.53	.43	12.30
1960	.28	.73	2.65	2.60	3.01	3.40	1.70	.54	.99	1.58	.24	.25	17.97

a Adjusted for change in contents in Rough River Reservoir since October 1959.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year			
		Observed				Adjusted a/			Observed		Adjusted a/	
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	
		Discharge	Date									
1950	-	-	-	-	-	-	-	-	21,340	-	-	38.31
1951	1205	63,400	Jan. 21, 1951	864	15,240	-	2.01	27.36	18,310	-	-	32.67
1952	1235	72,000	Mar. 31, 1952	380	15,660	-	2.07	28.17	10,080	-	-	18.13
1953	1275	48,000	May 26, 1953	304	8,111	-	1.07	14.57	7,914	-	-	14.22
1954	1335	36,900	Apr. 21, 1954	306	4,386	-	.580	7.87	4,903	-	-	8.80
1955	1385	66,800	Mar. 29, 1955	330	10,780	-	1.43	19.35	10,700	-	-	19.19
1956	1435	67,000	Feb. 25, 1956	600	11,190	-	1.48	20.14	11,320	-	-	20.37
1957	1505	54,600	Feb. 8, 9, 1957	580	10,710	-	1.42	19.21	15,310	-	-	27.47
1958	1555	59,600	Nov. 27, 1957	659	13,960	-	1.85	25.06	9,139	-	-	16.41
1959	1625	42,200	Jan. 27, 1959	576	6,844	-	.905	12.30	8,407	-	8,412	15.12
1960	1705	41,400	July 3, 1960	300	9,967	9,984	1.32	17.97	-	-	-	-

a Adjusted for change in contents in Rough River Reservoir since October 1959.

3205. East Fork Pond River near Apex, Ky.

Location.--Lat 37°07'20", long 87°19'10", on downstream side of right pier of bridge on State Highway 189, 1.1 miles downstream from Coal Creek, 2.1 miles northeast of Apex, Christian County, and 5.8 miles upstream from confluence with West Fork.

Drainage area.--194 sq mi (revised).

Records available.--August 1940 to September 1960. Prior to October 1953, published as Pond River near Apex.

Gage.--Water-stage recorder. Datum of gage is 390.64 ft above mean sea level, adjustment of 1907. Prior to Aug. 21, 1942, wire-weight gage at same site and datum.

Average discharge.--20 years (1940-60), 260 cfs.

Extremes.--1940-60: Maximum discharge, 21,800 cfs Nov. 19, 1957 (gage height, 20.70 ft); no flow at times during most years.
Flood in January 1937 reached a stage of 19.6 ft, from floodmarks.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	23.5	345	659	1,479	984	666	453	45.3	83.0	71.6	25.8	59.8	407
1952	8.64	736	1,197	636	336	1,136	141	37.9	2.77	6.71	.358	11.6	356
1953	4.07	15.8	149	444	188	1,063	384	909	12.5	32.6	1.12	0	269
1954	0	0	15.9	319	216	175	411	244	230	34.1	10.9	65.2	142
1955	24.7	2.04	253	92.9	929	990	511	275	159	10.2	27.8	.02	269
1956	3.91	4.69	15.9	412	1,154	389	436	200	10.0	26.3	22.3	1.06	219
1957	1.34	3.81	36.8	623	737	349	622	845	57.9	9.68	1.29	.12	271
1958	5.51	1,430	740	274	260	487	406	422	86.7	250	50.4	10.9	368
1959	.58	8.59	20.1	549	330	220	113	103	65.7	29.7	153	30.2	134
1960	18.3	56.7	279	245	296	459	219	32.7	632	125	10.9	4.09	197

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.14	1.98	3.92	8.79	5.28	4.08	2.60	0.27	0.48	0.43	0.15	0.34	28.46
1952	.05	4.25	7.11	3.78	1.87	6.75	.81	.23	.02	.04	.002	.07	24.96
1953	.02	.09	.88	2.64	1.01	6.31	2.21	5.40	.07	.19	.007	0	18.83
1954	0	0	.09	1.89	1.16	1.04	2.36	1.45	1.32	.20	.06	.38	9.95
1955	.15	.01	1.50	.55	4.99	5.89	2.94	1.64	.91	.06	.17	.0001	18.81
1956	.02	.03	.09	2.45	6.42	2.31	2.50	1.19	.06	.16	.13	.006	15.37
1957	.008	.02	.22	3.70	3.95	2.07	3.58	5.02	.33	.06	.008	.0007	18.97
1958	.03	8.22	4.40	1.63	1.40	2.89	2.33	2.51	.50	1.49	.30	.06	25.76
1959	.003	.06	.12	3.26	1.77	1.30	.65	.61	.38	.18	.91	.17	94.40
1960	.11	.33	1.66	1.46	1.65	2.73	1.26	.19	3.64	.74	.06	.02	13.85

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	582	40.75
1951	1205	17,500	Jan. 15, 1951	1	407	2.10	28.46	483	33.81
1952	1235	7,790	Mar. 23, 1952	0	356	1.84	24.96	208	14.56
1953	1275	7,930	May 18, 1953	0	269	1.39	18.83	256	17.35
1954	1335	83,040	Apr. 17, 1954	0	142	.732	9.95	165	11.52
1955	1385	6,830	Mar. 22, 1955	0	269	1.39	18.81	247	17.29
1956	1435	8,730	Jan. 30, 1956	0	219	1.13	15.37	220	15.48
1957	1505	11,100	May 23, 1957	0	271	1.38	18.97	448	31.37
1958	1555	21,800	Nov. 19, 1957	0	368	1.90	25.76	190	13.28
1959	1625	7,330	Jan. 22, 1959	.1	134	.691	9.40	162	11.33
1960	1705	13,200	June 28, 1960	.2	197	1.02	13.85	-	-

a Maximum recorded.

3220. Ohio River at Evansville, Ind.

Location.--Lat 37°58'20", long 87°34'35", on right bank at Riverside Drive and Court Street, at Evansville, Vanderburgh County, three-quarters of a mile upstream from Pigeon Creek and at mile 792.3.

Drainage area.--107,000 sq mi, approximately.

Records available.--December 1936 to September 1960 (fragmentary prior to October 1940). Gage-height records collected at same site since 1873 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 329.18 ft above mean sea level, Ohio River datum. Auxiliary staff gage read hourly at lock and dam 48, at Henderson, Henderson County, Ky., 17.3 miles downstream.

Average discharge.--20 years (1940-60), 133,300 cfs.

Extremes.--1936-60: Maximum discharge, 1,410,000 cfs Jan. 29, 1937; maximum gage height, 53.75 ft Jan. 31, 1937.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	47,520	148,800	308,100	342,300	405,800	364,400	282,900	135,200	101,600	58,440	20,350	24,330	185,400
1952	13,770	84,330	282,800	354,900	365,200	308,700	230,100	167,900	73,140	28,610	22,130	14,830	161,800
1953	10,970	19,670	59,850	161,300	161,500	235,100	190,700	208,700	89,440	35,810	20,140	10,830	100,100
1954	7,523	9,633	24,130	73,470	66,180	144,100	158,900	111,800	50,670	42,850	42,650	26,830	63,210
1955	87,490	46,960	95,330	174,400	250,700	577,300	181,100	112,800	60,760	45,740	31,190	12,720	137,800
1956	36,160	69,210	52,060	32,350	444,700	427,300	310,400	176,900	144,800	96,040	108,800	56,240	161,600
1957	29,160	36,330	145,800	170,300	378,900	160,600	339,800	143,700	77,250	62,550	15,150	19,830	129,800
1958	21,610	112,200	238,800	165,400	158,500	169,000	249,200	553,200	96,290	178,700	174,300	52,310	164,600
1959	29,940	43,920	65,440	230,400	309,200	179,200	188,700	135,800	56,700	37,650	31,520	18,000	109,300
1960	40,870	67,120	192,700	208,200	222,200	166,300	237,200	105,800	107,900	77,970	32,230	28,500	123,500

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.51	1.55	3.32	3.69	3.95	3.93	2.95	1.46	1.06	0.63	0.22	0.25	23.52
1952	.15	.88	3.05	3.82	3.68	3.33	2.40	1.81	.76	.31	.24	.15	20.58
1953	.12	.21	.64	1.74	1.57	2.53	1.99	2.25	.93	.39	.22	.11	12.70
1954	.08	.10	.26	.79	.64	1.55	1.66	1.20	.53	.46	.46	.28	8.01
1955	.94	.49	1.03	1.88	2.44	6.00	1.89	1.22	.63	.49	.34	.13	17.48
1956	.39	.72	.56	.35	4.48	4.60	3.24	1.91	1.51	1.03	1.17	.59	20.55
1957	.31	.38	1.58	1.84	3.69	1.73	3.54	1.55	.81	.67	.16	.21	16.47
1958	.23	1.17	2.57	1.78	1.54	1.82	2.60	3.81	1.00	1.93	1.88	.55	20.88
1959	.32	.46	.71	2.48	3.01	1.93	1.97	1.46	.59	.41	.34	.19	13.87
1960	.44	.70	2.08	2.24	2.24	1.79	2.47	1.14	1.13	.84	.35	.30	15.72

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	216,400	27.46
1951	1205	583,000	Dec. 14, 1950	-	185,400	1.73	23.52	175,000	22.22
1952	1235	618,000	Feb. 5, 1952	-	161,800	1.51	20.58	137,300	17.47
1953	1275	356,000	Mar. 9, 1953	-	100,100	.936	12.70	95,940	12.17
1954	1355	243,000	Apr. 24, 1954	-	63,210	.591	8.01	79,120	10.05
1955	1385	655,000	Mar. 13, 1955	-	137,800	1.29	17.48	131,600	16.69
1956	1425	561,000	Mar. 21, 1956	-	161,600	1.51	20.55	166,300	21.15
1957	1505	543,000	Apr. 14, 1957	-	129,800	1.21	16.47	143,200	18.17
1958	1555	573,000	May 14, 1958	-	164,600	1.54	20.88	145,000	18.40
1959	1625	577,000	Jan. 28, 1959	-	109,300	1.02	13.87	122,900	15.60
1960	1705	393,000	Apr. 11, 1960	-	123,500	1.15	15.72	-	-

WABASH RIVER BASIN

3225. Wabash River near New Corydon, Ind.

Location.--Lat 40°33'50", long 84°48'10", in SE $\frac{1}{4}$ 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, 2 $\frac{1}{2}$ miles downstream from Beaver Creek, and at mile 465.6.

Drainage area.--258 sq mi.

Records available.--April 1951 to September 1960.

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.--9 years (1951-60), 202 cfs.

Extremes.--1951-60: 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.--Flow slightly affected by regulation of Grand Lake, diversion from or into St. Marys River basin, and into Miami and Erie Canal.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	277	179	37.0	17.6	5.98	6.92	-
1952	5.86	24.7	391	868	547	692	445	167	34.1	20.8	63.1	114	281
1953	17.0	47.7	235	283	246	546	109	347	73.1	21.3	16.6	9.89	163
1954	7.55	9.53	9.26	32.3	44.2	79.9	140	29.8	41.7	7.10	20.2	3.36	35.2
1955	101	59.8	112	239	259	344	98.6	29.4	44.5	31.1	11.6	38.3	113
1956	118	275	34.5	40.1	509	486	258	158	148	47.3	17.0	8.48	173
1957	5.32	7.91	69.3	222	298	141	1,328	552	504	532	26.1	163	319
1958	116	194	715	310	133	97.9	190	135	1,161	349	257	102	314
1959	105	101	46.6	982	614	472	428	423	33.9	14.7	9.25	9.12	284
1960	39.0	69.2	174	298	435	224	69.3	66.5	65.2	141	17.1	7.36	133

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	1.19	0.80	0.16	0.08	0.03	0.03	-
1952	0.03	0.11	1.75	3.87	2.29	3.09	1.92	.75	.15	.09	.28	.49	14.82
1953	.08	.21	1.05	1.27	.99	2.44	.47	1.54	.32	.10	.07	.04	8.58
1954	.03	.04	.04	.14	.18	.36	.61	.13	.18	.03	.09	.01	1.84
1955	.45	.26	.50	1.07	1.04	1.53	.43	.13	.19	.14	.05	.16	5.95
1956	.53	1.19	.15	.18	2.12	2.17	1.12	.71	.64	.21	.08	.04	9.14
1957	.02	.03	.31	.99	1.21	.63	5.75	2.47	2.18	2.38	.12	.71	16.80
1958	.52	.84	3.19	1.38	.54	.44	.82	.60	5.02	1.56	1.15	.44	16.50
1959	.47	.44	.21	4.39	3.29	2.11	1.85	1.89	.15	.07	.04	.04	14.95
1960	.17	.30	.78	1.34	1.82	1.00	.30	.30	.28	.63	.08	.03	7.03

Note.--Figures for runoff in inches prior to October 1955 not previously published.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	2,730	May 10, 1951	-	-	-	-	-	-
1952	1235	4,690	Mar. 11, 1952	2.2	281	*1.09	*14.82	271	*14.27
1953	1275	4,360	Mar. 4, 1953	7.2	163	*.632	*8.58	140	*7.35
1954	1335	1,400	Apr. 16, 1954	1.0	35.2	*.136	*1.84	56.0	*2.94
1955	1385	2,710	Jan. 6, 1955	4.5	113	*.438	*5.95	126	*6.61
1956	1435	2,710	Feb. 26, 1956	5.4	173	.671	9.14	145	7.63
1957	1505	6,390	June 29, 1957	5.0	319	1.24	16.80	399	20.99
1958	1555	5,850	June 11, 1958	12	314	1.22	16.50	248	13.07
1959	1625	8,720	Jan. 22, 1959	5.5	284	1.10	14.95	286	15.08
1960	1705	2,600	Feb. 10, 1960	5.6	133	.516	7.03	-	-

* Not previously published.

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 1960. 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.--30 years (1930-60), 402 cfs.

Extremes.--1930-60: 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 rainfall-runoff relation).

Remarks.--Flow slightly affected by regulation of Grand Lake, diversion from or into St. Marys River basin, and into Miami and Erie Canal.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.62	1.37	2.50	2.32	3.42	2.25	1.78	1.05	0.22	0.20	0.03	0.03	15.79
1952	.03	.17	1.61	4.61	2.48	3.72	2.59	.66	.20	.15	.15	.30	16.67
1953	.05	.17	.77	1.38	1.00	2.92	.67	1.24	.33	.12	.12	.03	8.80
1954	.02	.03	.03	.15	2.04	.54	.87	.23	.44	.08	.10	.02	4.55
1955	.59	.32	.64	1.59	.95	2.29	.69	.12	.19	.28	.14	.04	7.94
1956	.45	1.72	.22	.14	2.28	2.20	1.05	.78	1.15	.36	.10	.04	10.49
1957	.02	.03	.27	1.02	1.04	.95	6.76	2.25	1.58	3.54	.12	.48	18.06
1958	.60	.71	4.08	.99	.54	.65	.83	.73	5.24	1.30	1.22	.24	17.13
1959	.31	1.00	.28	3.64	4.12	1.94	2.31	1.89	.30	.14	.07	.07	16.07
1960	.29	.54	1.38	1.71	2.22	1.21	.59	.48	.48	.63	.09	.03	9.65

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	271	623	1,100	1,018	1,662	988	812	462	101	86.2	14.8	13.1	590
1952	13.0	75.8	707	2,025	1,186	1,633	1,176	290	92.9	66.4	65.6	136	620
1953	22.9	77.6	340	605	488	1,279	303	545	149	51.0	50.7	13.0	328
1954	8.75	12.2	14.9	64.6	99.2	237	395	101	199	34.6	44.4	11.1	101
1955	258	145	283	701	464	1,008	313	53.9	85.6	123	61.4	18.5	293
1956	199	777	94.4	60.8	1,067	964	476	341	521	159	44.0	16.4	389
1957	8.48	13.4	118	447	505	415	3,068	985	721	1,551	52.3	218	673
1958	262	322	1,793	436	262	286	377	320	2,380	574	536	111	640
1959	138	454	122	1,599	2,006	850	1,049	828	138	62.5	29.7	30.4	600
1960	127	244	607	751	1,042	529	267	210	216	276	40.5	13.3	358

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	881	23.64
1951	1205	7,200	Feb. 23, 1951	8.5	590	1.17	15.79	489	13.11
1952	1235	8,140	Mar. 13, 1952	6.9	620	1.22	16.67	590	15.85
1953	1275	4,370	Mar. 6, 1953	9.0	328	.648	8.80	294	7.89
1954	1355	1,710	June 11, 1954	4.5	101	.200	4.55	156	6.02
1955	1385	4,170	Mar. 4, 1955	5.2	293	.579	7.84	324	8.68
1956	1435	2,750	Nov. 16, 1955	10	389	.769	10.49	312	8.42
1957	1505	8,160	June 30, 1957	6.9	673	1.33	18.06	862	23.13
1958	1555	7,890	June 13, 1958	24	640	1.26	17.13	498	13.33
1959	1625	9,820	Feb. 10, 1959	13	600	1.19	16.07	623	16.69
1960	1705	3,570	Mar. 30, 1960	10	358	.708	9.65	-	-

3235. Wabash River at Huntington, Ind.

Location.--Lat 40°51'20", long 85°29'53", in SW 1/4 sec. 27, T.28 N., R.9 E., on right bank at the Huntington Water and Light Plant, 2 miles south of Huntington, 3 1/4 miles upstream from Little Wabash River, and at mile 409.

Drainage area.--710 sq mi.

Records available.--January 1951 to September 1960.

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.--9 years (1951-60), 643 cfs (revised).

Extremes.--1951-60: Maximum discharge, 14,900 cfs (revised) Feb. 10, 1959; maximum gage height, 23.20 ft Feb. 10, 1959 (backwater from ice); minimum discharge, 4.3 cfs Oct. 8, 1956 (gage height, 8.98 ft).
Flood in March 1913 reached a stage of 22.7 ft (from high-water mark by Corps of Engineers).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	2,165	1,278	1,175	759	160	119	31.5	23.5	-
1952	25.7	127	1,172	2,754	1,658	2,146	1,647	619	193	71.2	72.2	142	885
1953	33.6	112	394	796	685	1,786	498	616	176	106	51.7	20.5	440
1954	18.7	17.4	23.2	89.9	152	373	580	161	310	57.1	76.0	23.1	156
1955	479	203	439	1,080	692	1,654	558	103	118	357	168	23.7	508
1956	309	1,153	170	71.5	1,749	1,511	588	442	819	316	63.6	18.6	594
1957	11.9	26.7	140	548	664	548	4,208	1,319	837	2,006	99.8	249	885
1958	361	425	2,307	558	344	435	495	399	3,096	926	749	135	855
1959	149	623	203	2,314	*3,443	1,201	1,802	1,230	587	204	69.2	40.7	*971
1960	207	420	749	1,050	1,393	658	457	283	319	307	55.4	21.5	491

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	3.18	2.07	1.85	1.23	0.25	0.19	0.05	0.04	-
1952	0.04	0.20	1.90	4.47	2.52	3.48	2.59	1.01	.30	.12	.12	.22	16.97
1953	.05	.18	.64	1.29	1.00	2.90	.78	1.00	.28	.17	.08	.03	8.40
1954	.03	.03	.04	.15	.22	.61	.91	.26	.49	.09	.13	.04	3.00
1955	.78	.32	.71	1.75	1.02	3.01	.88	.17	.19	.58	.27	.04	9.72
1956	.50	1.81	.28	.12	2.65	2.46	.92	.72	1.28	.51	.10	.03	11.38
1957	.02	.04	.23	.69	.97	.89	6.62	2.14	1.32	3.26	.16	.39	16.93
1958	.59	.87	3.75	.91	.50	.71	.78	.65	4.86	1.50	1.21	.21	16.34
1959	.24	.98	.33	3.76	*5.05	1.95	2.83	1.99	.92	.33	.11	.06	*18.55
1960	.34	.66	1.21	1.71	2.11	1.07	.72	.46	.50	.50	.09	.04	9.41

* Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	47,710	Feb. 25, 1951	-	-	-	-	-	-
1952	1235	8,570	Mar. 13, 1952	11	885	1.25	16.97	819	15.70
1953	1275	5,520	Mar. 4, 1953	16	440	.620	8.40	400	7.63
1954	1335	2,270	Apr. 12, 1954	9.4	156	.220	3.00	263	4.71
1955	1385	9,220	Mar. 4, 1955	9.4	508	.715	9.72	549	10.50
1956	1435	5,070	Feb. 25, 1956	11	594	.837	11.38	474	9.08
1957	1505	9,880	Apr. 6, 1957	6.0	885	1.25	16.93	1,131	21.65
1958	1555	11,400	June 13, 1958	28	855	1.20	16.34	674	12.68
1959	1625	*14,900	Feb. 10, 1959	14	*971	*1.37	*18.55	*1,006	*19.21
1960	1705	5,610	Feb. 11, 1960	14	491	.692	9.41	-	-

* Revised.

a Maximum during period January to September.

3240. Little Wabash River near Huntington, Ind.
(Formerly published as Little River near Huntington)

Location (revised).--Lat 40°54'14", long 85°24'22", in NE¼NW¼ 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 1960. Prior to January 1944 monthly discharge only, published in WSP 1305. Published as Little River at Huntington, January 1944 to September 1948 and as Little River near Huntington, October 1948 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 728.10 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1948, wire-weight gage at site 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.--17 years (1943-60), 249 cfs.

Extremes.--1943-60: 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	109	331	589	477	835	440	462	222	251	244	32.2	12.1	330
1952	44.1	135	328	995	475	581	483	520	210	42.4	32.3	21.9	323
1953	12.3	41.1	91.1	233	202	587	286	118	22.4	25.6	15.4	12.4	137
1954	8.68	11.2	11.7	40.9	75.4	170	202	533	146	17.4	61.8	10.8	67.0
1955	701	116	257	334	238	1,020	214	42.4	39.0	302	62.2	7.60	280
1956	141	442	72.0	33.8	617	540	133	313	189	37.1	19.7	11.5	210
1957	8.21	11.3	26.3	132	197	91.3	1,396	248	350	171	76.8	28.8	226
1958	157	181	826	130	140	170	103	42.1	809	334	501	33.2	287
1959	17.5	159	57.8	497	1,164	415	1,005	372	526	117	15.4	12.9	356
1960	42.7	148	278	402	437	397	205	104	332	28.2	20.0	9.82	199

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.47	1.39	2.55	2.07	3.27	1.91	1.94	0.96	1.05	1.06	0.14	0.05	16.86
1952	.19	.57	1.42	4.31	1.93	2.52	2.03	2.26	.88	.19	.14	.09	16.52
1953	.05	.17	.39	1.01	.79	2.54	1.20	.51	.09	.11	.07	.05	6.98
1954	.04	.05	.05	.18	.29	.74	.85	.23	.61	.07	.27	.05	3.43
1955	3.04	.49	1.11	1.45	.93	4.42	.90	.18	.16	1.31	.27	.03	14.29
1956	.61	1.85	.31	.15	2.50	2.34	.56	1.36	.79	.16	.08	.05	10.76
1957	.04	.05	.11	.57	.77	.40	5.86	1.07	1.47	.74	.33	.12	11.53
1958	.68	.76	3.58	.56	.55	.74	.43	.18	3.39	1.45	2.17	.14	14.63
1959	.08	.67	.25	2.16	4.56	1.80	4.22	1.61	2.21	.51	.07	.05	18.19
1960	.19	.62	1.21	1.74	1.77	1.72	.86	.45	1.40	.12	.09	.04	10.21

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	477	24.34
1951	1205	4,240	Dec. 3, 1950	9.8	330	1.24	16.86	287	14.63
1952	1235	4,420	May 25, 1952	9.4	323	1.21	16.52	292	14.95
1953	1275	3,880	Mar. 3, 1953	8.8	137	.515	6.98	128	6.51
1954	1355	2,040	Apr. 11, 1954	6.5	67.0	.252	3.43	357	7.95
1955	1385	4,640	Mar. 4, 1955	5.6	280	1.05	14.29	244	12.42
1956	1435	3,420	Feb. 26, 1956	6.6	210	.789	10.76	160	8.19
1957	1505	3,940	Apr. 5, 1957	7.0	226	.850	11.53	320	16.35
1958	1555	3,540	June 14, 1958	18	287	1.08	14.63	208	10.61
1959	1625	4,740	June 26, 1959	9.9	356	1.34	18.19	376	19.21
1960	1705	2,840	Feb. 11, 1960	7.6	199	.748	10.21	-	-

WABASH RIVER BASIN

3242. Salamonie River at Portland, Ind.

Location.--Lat 40°25', long 85°01', in NE $\frac{1}{4}$ sec.25, T.23 N., R.13 E., at downstream side of old State Highway 67 bridge at Portland, 1.2 miles downstream from Butter Nut Creek and 1.8 miles downstream from Little Salamonie River.

Drainage area.--82.4 sq mi.

Records available.--September 1959 to September 1960.

Gage.--Wire-weight gage. Datum of gage is 884.02 ft above mean sea level, datum of 1929.

Extremes.--1959-60: Maximum discharge, 1,540 cfs Dec. 12, 1959 (gage height, 9.00 ft), from graph based on gage readings; minimum observed, 0.7 cfs Sept. 25 (gage height, 0.85 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	23.0	41.4	83.0	110	137	77.4	22.7	34.9	16.2	74.4	10.0	2.04	52.6

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	0.32	0.56	1.16	1.53	1.79	1.08	0.31	0.49	0.22	1.04	0.14	0.03	6.67

3243. Salamonie River near Warren, Ind.

Location.--Lat 40°42'45", long 85°27'13", in SE $\frac{1}{4}$ 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 miles.

Records available.--March 1957 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 784.75 ft above mean sea level, datum of 1929. Prior to July 28, 1960, wire-weight gage at same site and datum.

Extremes.--1957-60: Maximum discharge, 13,200 cfs Feb. 10, 1959 (gage height, 17.05 ft); minimum, 5.0 cfs Sept. 18, 19, 1959; minimum gage height, 6.40 ft Sept. 11, 12, 13, 14, 1960.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	204	2,565	536	768	1,009	40.1	129	-
1958	232	257	1,477	227	225	300	243	270	2,312	543	335	46.0	540
1959	33.7	497	121	1,444	1,674	647	1,237	353	143	88.6	32.7	12.9	515
1960	134	214	349	595	848	412	195	243	150	238	54.6	13.2	286

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	0.56	6.78	1.46	2.03	2.76	0.11	0.34	-
1958	0.63	0.68	4.04	0.62	0.56	.82	.64	.74	6.11	1.49	.92	.12	17.37
1959	.09	1.32	.33	3.94	4.13	1.76	3.27	.96	.38	.24	.09	.03	16.54
1960	.37	.57	.95	1.63	2.17	1.13	.52	.66	.40	.65	.15	.03	9.23

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1957	1505	7,120	Apr. 4, 1957	-	-	-	-	-	-
1958	1555	11,300	June 11, 1958	15	540	1.28	17.37	427	13.76
1959	1625	13,200	Feb. 10, 1959	5.8	515	1.22	16.54	519	16.69
1960	1705	3,650	Mar. 29, 1960	11	286	.678	9.23	-	-

3245. Salamonie River at Dora, Ind.

Location--Lat 40°48'27", long 85°40'47", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.12, T.27 N., R.7 E., on left bank in Salamonie River State Forest, 1.2 miles northwest of Dora and 3 miles upstream from mouth.

Drainage area--553 sq mi.

Records available--November 1923 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage--Water-stage recorder. Datum of gage is 679.77 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1951, wire-weight or chain gage at site 1.3 miles upstream at datum 688.59 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Average discharge--36 years (1924-60), 511 cfs.

Extremes--1923-60: 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).

Correction--In WSP 1305, the date of the momentary maximum discharge in the 1934 water year is listed in error; it should be Mar. 30, 1934.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	368	906	1,273	1,113	1,692	940	1,088	673	160	182	33.7	25.4	698
1952	34.3	159	914	1,945	973	1,555	1,200	510	146	42.2	61.6	137	639
1953	34.9	118	320	526	435	1,364	482	541	111	214	215	22.8	367
1954	21.8	29.4	29.5	127	181	308	551	142	318	65.4	98.1	25.1	157
1955	259	120	377	897	585	1,247	432	97.1	79.4	280	235	25.8	387
1956	284	927	165	98.8	1,236	828	350	335	604	402	79.1	31.1	440
1957	20.4	30.1	136	485	596	356	3,297	694	1,010	1,341	79.7	175	681
1958	266	301	1,834	294	281	377	256	332	2,938	828	403	54.7	681
1959	43.4	612	162	1,502	2,223	922	1,784	557	214	127	58.9	54.1	676
1960	179	354	543	757	1,023	681	340	325	183	325	70.3	29.2	399

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.77	1.84	2.67	2.34	3.21	1.97	2.21	1.41	0.33	0.38	0.07	0.05	17.25
1952	.07	.32	1.91	4.06	1.90	3.20	2.42	1.06	.30	.09	.13	.28	15.74
1953	.07	.24	.67	1.10	.82	2.84	.97	1.13	.22	.45	.45	.05	9.01
1954	.04	.06	.06	.27	.34	.64	1.11	.30	.64	.14	.20	.05	3.85
1955	.54	.24	.79	1.87	1.10	2.59	.87	.20	.16	.58	.49	.05	9.48
1956	.59	1.87	.34	.21	2.42	1.73	.71	.70	1.22	.84	.16	.06	10.85
1957	.04	.06	.28	1.01	1.12	.74	6.65	1.44	2.04	2.79	.17	.35	16.69
1958	.55	.61	3.83	.61	.53	.79	.52	.69	5.92	1.73	.84	.11	16.73
1959	.09	1.24	.34	3.14	4.19	1.92	3.60	1.16	.43	.27	.12	.11	16.61
1960	.37	.71	1.13	1.58	2.00	1.42	.69	.68	.37	.68	.15	.06	9.84

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,103	27.24
1951	1205	6,950	Dec. 3, 1950	23	698	1.27	17.25	578	14.27
1952	1235, 1555	6,960	Mar. 11, 1952	21	639	1.18	15.74	585	14.42
1953	1275	5,390	Mar. 5, 1953	16	367	.664	9.01	334	8.19
1954	1335	2,820	Apr. 12, 1954	13	157	.284	3.85	214	5.28
1955	1385	6,400	Mar. 4, 1955	14	387	.700	9.48	437	10.71
1956	1435	6,260	Feb. 25, 1956	18	440	.796	10.85	342	8.43
1957	1505, 1555	8,500	Apr. 5, 1957	17	681	1.23	16.69	858	21.06
1958	1555	12,600	June 11, 1958	30	681	1.23	16.73	546	13.41
1959	1625	15,600	Feb. 10, 1959	21	676	1.22	16.61	698	17.15
1960	1705	5,250	Mar. 29, 1960	24	399	.722	9.84	-	-

WABASH RIVER BASIN

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 1960. 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.--37 years (1923-60), 1,501 cfs.

Extremes.--1923-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	954	2,331	3,980	3,222	5,451	2,901	3,124	1,799	806	728	128	76.1	2,104
1952	140	524	2,611	6,789	5,588	4,995	3,798	2,189	739	184	186	357	2,176
1953	95.2	275	840	1,746	1,431	4,277	1,442	1,338	327	340	246	49.6	1,041
1954	53.2	88.4	88.3	306	394	928	1,499	471	936	175	313	71.8	442
1955	1,713	499	1,199	2,443	1,397	4,988	1,434	287	286	1,062	457	70.3	1,327
1956	834	2,769	490	203	4,073	3,401	1,151	1,543	1,864	1,015	234	88.8	1,441
1957	49.4	91.4	330	1,275	1,596	1,149	11,060	2,598	2,303	3,879	278	441	2,076
1958	778	970	5,425	1,040	718	1,118	965	787	8,260	2,231	1,659	251	2,021
1959	228	1,349	459	4,102	7,764	2,571	5,234	2,413	1,401	498	154	139	2,149
1960	450	943	1,541	2,226	2,965	1,718	1,172	746	951	652	196	86.8	1,131

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.63	1.50	2.65	2.14	3.28	1.93	2.01	1.20	0.52	0.48	0.09	0.05	16.48
1952	.09	.34	1.74	4.52	2.29	3.32	2.45	1.46	.48	.12	.12	.23	17.18
1953	.06	.18	.56	1.16	.90	2.85	.93	.89	.21	.23	.16	.03	8.16
1954	.04	.06	.06	.20	.24	.62	.97	.31	.60	.12	.21	.05	3.48
1955	1.14	.32	.80	1.62	.84	3.32	.92	.19	.18	.71	.30	.05	10.39
1956	.55	1.78	.33	.13	2.53	2.26	.74	.89	1.20	.68	.16	.06	11.31
1957	.03	.06	.22	.85	.96	.76	7.12	1.73	1.48	2.58	.18	.28	16.25
1958	.52	.62	3.61	.69	.43	.74	.62	.52	5.32	1.49	1.10	.16	15.82
1959	.15	.87	.31	2.73	4.66	1.71	3.37	1.60	.90	.33	.10	.09	16.82
1960	.30	.61	1.02	1.48	1.84	1.14	.75	.50	.61	.43	.13	.06	8.87

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	-	-
1951	1205	21,900	Dec. 4, 1950	60	2,104	1.21	16.48	3,348	28.22	13.87
1952	1235	20,600	Mar. 12, 1952	56	2,176	1.26	17.18	2,002	15.73	7.52
1953	1275	16,100	Mar. 5, 1953	38	1,041	.601	8.16	958	7.52	5.58
1954	1335	6,900	Apr. 12, 1954	38	442	.255	3.48	711	5.58	10.79
1955	1385, 1505	24,500	Mar. 4, 1955	45	1,327	.766	10.39	1,379	10.79	8.96
1956	1435	18,800	Feb. 25, 1956	45	1,441	.832	11.31	1,141	8.96	20.69
1957	1505	29,500	Apr. 6, 1957	40	2,076	1.20	16.25	2,643	20.69	12.40
1958	1555	36,300	June 13, 1958	91	2,021	1.17	15.82	1,584	12.40	17.42
1959	1625	45,300	Feb. 11, 1959	65	2,149	1.24	16.82	2,226	17.42	-
1960	1705	14,600	Feb. 11, 1960	61	1,131	.653	8.87	-	-	-

3255. Mississinewa River near Ridgeville, Ind.

Location (revised).--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 1960.

Gage.--Water-stage recorder. Datum of gage is 965.23 ft above mean sea level, datum of 1929. Prior to Oct. 4, 1950, wire-weight gage at same site and datum.

Average discharge.--14 years (1946-60), 137 cfs.

Extremes.--1946-60: 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	44.8	185	317	297	427	308	204	122	32.0	11.6	3.78	2.81	161
1952	3.12	15.3	300	427	251	300	226	86.5	9.96	2.37	13.8	26.1	139
1953	3.93	12.8	86.0	170	125	290	48.1	342	21.7	33.1	13.0	2.78	96.3
1954	1.70	1.82	3.80	19.7	33.9	96.1	117	33.2	36.7	6.72	6.92	.99	29.8
1955	103	74.3	114	213	229	264	87.5	28.5	48.8	88.6	6.32	35.9	107
1956	165	359	43.4	21.6	340	160	181	120	84.5	52.1	16.1	4.41	127
1957	4.79	6.21	39.9	177	188	46.1	617	321	461	251	12.3	16.5	177
1958	17.8	38.8	376	66.3	68.7	81.2	166	161	1417	100	167	20.9	223
1959	10.1	64.6	38.5	575	422	218	256	132	18.6	8.22	4.26	2.82	144
1960	11.0	32.3	97.5	196	217	96.7	49.9	34.9	17.8	18.1	7.77	3.29	64.8

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.40	1.59	2.81	2.64	2.42	2.73	1.75	1.08	0.27	0.10	0.03	0.02	16.84
1952	.03	.13	2.66	3.79	2.08	2.66	1.94	.77	.09	.02	.02	.22	14.51
1953	.03	.11	.76	1.51	1.00	2.57	.41	3.03	.19	.29	.12	.02	10.04
1954	.02	.02	.03	.18	.27	.85	1.00	.29	.31	.06	.06	.008	3.10
1955	.91	.64	1.01	1.89	1.83	2.34	.75	.25	.42	.79	.06	.31	11.20
1956	1.46	3.08	.39	.19	2.83	1.42	1.55	1.06	.72	.46	.14	.04	13.34
1957	.04	.05	.35	1.57	1.51	.41	5.30	2.85	3.96	2.22	.11	.14	18.51
1958	.16	.33	3.33	.59	.55	.72	1.43	1.43	12.16	.89	1.48	.18	23.25
1959	.09	.55	.34	5.10	3.38	1.94	2.20	1.18	.16	.07	.04	.02	15.07
1960	.10	.28	.86	1.74	1.80	.86	.43	.31	.15	.16	.07	.05	6.79

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1950	-	-	-	-	-	-	-	234	24.43	-	-
1951	1205	4,200	Feb. 21, 1951	1.7	161	1.24	16.84	143	14.86	-	-
1952	1235	3,250	Jan. 26, 1952	1.2	139	1.07	14.51	120	12.59	-	-
1953	1275	3,250	Mar. 4, 1953	.6	96.3	.741	10.04	88.2	9.21	-	-
1954	1335	1,020	Mar. 30, 1954	.3	29.8	.229	5.10	53.7	5.59	-	-
1955	1385	2,490	Jan. 6, 1955	.3	107	.823	11.20	130	13.57	-	-
1956	1435	4,200	Nov. 16, 1955	2.9	127	.977	13.34	84.7	8.85	-	-
1957	1505	8,830	June 28, 1959	3.4	177	1.36	18.51	210	21.89	-	-
1958	1555	13,900	June 10, 1958	3.7	223	1.72	23.25	195	20.41	-	-
1959	1625	9,120	Jan. 21, 1959	1.5	144	1.11	15.07	147	15.33	-	-
1960	1705	2,280	Feb. 10, 1960	1.5	64.8	.498	6.79	-	-	-	-

3260. Mississinewa River near Eaton, Ind.

Location.--Lat 40°20', long 85°19', in NE $\frac{1}{4}$ sec.31, T.22 N., R.11 E., on right bank at downstream side of bridge, $1\frac{1}{2}$ miles upstream from Estey Creek and $2\frac{1}{2}$ miles southeast of Eaton.

Drainage area.--304 sq mi.

Records available.--March 1952 to September 1960.

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.--8 years (1952-60), 285 cfs.

Extremes. 1952-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	1,102	516	205	38.7	9.53	30.5	116	-
1953	17.6	68.2	265	355	307	709	215	772	54.9	98.5	38.8	5.16	243
1954	3.79	6.68	13.7	48.8	60.2	222	300	835	63.6	10.4	10.4	3.21	68.7
1955	149	98.2	212	515	504	590	216	68.4	87.1	196	25.5	42.1	224
1956	321	795	113	54.0	770	341	515	307	490	95.2	37.6	13.1	317
1957	9.62	13.3	104	389	463	338	1,619	821	1,224	495	30.0	100	447
1958	114	162	1,050	176	190	218	291	360	2,628	221	300	60.2	480
1959	29.5	208	111	1,043	867	501	608	397	51.4	16.7	9.45	9.14	318
1960	64.0	129	268	502	649	287	131	88.2	45.6	59.6	17.3	6.59	186

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	2.83	1.89	0.78	0.14	0.04	0.12	0.43	-
1953	0.07	0.25	1.01	1.35	1.05	2.69	.79	2.93	.20	.37	.15	.02	10.88
1954	.01	.02	.05	.19	.21	.84	1.10	.32	.23	.04	.04	.01	3.06
1955	.56	.36	.80	1.95	1.73	2.24	.79	.26	.32	.74	.10	.15	10.00
1956	1.22	2.92	.43	.21	2.73	1.29	1.89	1.16	1.80	.36	.14	.05	14.20
1957	.04	.05	.39	1.48	1.58	.52	5.95	3.11	4.50	1.88	.11	.37	19.98
1958	.43	.59	3.98	.67	.65	.83	1.07	1.36	9.64	.84	1.14	.22	21.42
1959	.11	.76	.42	3.95	2.97	1.90	2.23	1.51	.19	.06	.04	.03	14.17
1960	.24	.47	1.02	1.90	2.30	1.09	.48	.33	.17	.23	.07	.02	8.32

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1235	67,330	Mar. 11, 1952	-	-	-	-	-	-
1953	1275	5,240	Mar. 5, 1953	2.4	243	0.799	10.88	218	9.63
1954	1335	1,680	Apr. 17, 1954	2.0	68.7	.226	3.06	105	4.70
1955	1365	4,400	Jan. 7, 1955	3.4	224	.737	10.00	268	12.65
1956	1435	5,790	Nov. 17, 1955	7.4	317	1.04	14.20	226	10.11
1957	1505	14,800	June 29, 1957	5.8	447	1.47	19.98	549	24.50
1958	1555	19,400	June 10, 1958	1.5	480	1.58	21.42	397	17.71
1959	1625	12,800	Jan. 22, 1959	4.9	318	1.05	14.17	327	14.61
1960	1705	4,080	Feb. 11, 1960	5.2	186	.612	8.32	-	-

a Maximum for period March to September.

3265. Mississinewa River at Marlon, 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 Marlon, 1 mile upstream from Hummels Creek, and 4 miles downstream from Lugar Creek.

Drainage area.--677 sq mi.

Records available.--September 1923 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder and Telemark. 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.--37 years (1923-60), 645 cfs.

Extremes.--1923-60: 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.

Remarks.--Flow periodically regulated by dam above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	293	1,011	1,527	1,301	2,022	1,377	1,407	812	217	150	63.4	49.0	826
1952	70.0	182	1,086	2,192	1,583	1,890	1,314	590	183	64.9	77.7	245	771
1953	63.9	165	525	776	1,623	1,428	699	1,282	226	212	104	39.6	514
1954	38.2	46.6	53.8	140	246	426	631	184	224	51.8	50.6	29.4	176
1955	280	176	449	1,204	699	1,295	615	144	205	695	147	64.1	499
1956	551	1,403	268	131	1,575	798	780	623	845	203	77.3	49.1	601
1957	34.8	53.2	163	601	851	361	3,506	1,182	1,891	1,181	94.9	212	838
1958	323	424	2,254	390	323	487	480	575	4,765	829	614	147	968
1959	102	649	264	1,666	2,202	1,129	1,783	767	168	88.8	80.5	61.9	736
1960	135	264	529	932	1,300	647	383	398	244	471	103	54.6	453

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.50	1.67	2.60	2.22	3.11	2.35	2.32	1.38	0.36	0.26	0.11	0.08	16.96
1952	.12	1.30	1.85	3.73	2.20	3.22	2.17	1.00	.27	.11	.13	.40	15.50
1953	.11	.27	.89	1.32	.96	2.43	1.15	2.18	.37	.36	.18	.07	10.29
1954	.06	.08	.09	.24	.38	.73	1.04	.31	.37	.09	.09	.05	3.53
1955	.48	.29	.76	2.05	1.07	2.20	1.01	.25	.34	1.19	.25	.11	10.00
1956	.94	2.31	.46	.22	2.51	1.36	1.28	1.06	1.40	.35	.13	.08	12.10
1957	.06	.09	.28	1.02	1.31	.81	5.78	2.02	3.11	2.01	.16	.35	16.80
1958	.55	.70	3.84	.66	.50	.83	.79	.98	7.86	1.41	1.05	.24	19.41
1959	.17	1.07	.45	2.84	3.38	1.92	2.93	1.30	.28	.15	.14	.10	14.73
1960	.23	.44	.90	1.59	2.07	1.10	.63	.68	.40	.80	.18	.09	9.11

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,266	25.57
1951	1205	10,200	Feb. 22, 1951	6.4	826	1.22	16.96	701	14.46
1952	1235	11,200	Mar. 11, 1952	39	771	1.14	15.50	722	14.50
1953	1275	7,920	Mar. 4, 1953	5.8	514	.759	10.29	462	9.25
1954	1335	2,690	Feb. 28, 1954	23	176	.260	3.53	240	4.83
1955	1385	7,770	Jan. 6, 1955	4.0	499	.737	10.00	607	12.18
1956	1435	6,200	Nov. 18, 1955	31	601	.898	12.10	438	8.82
1957	1505	19,700	June 30, 1957	6.7	838	1.24	16.80	1,071	21.46
1958	1555	24,300	June 11, 1958	14	968	1.43	19.41	798	16.01
1959	1625	14,500	Feb. 10, 1959	46	736	1.09	14.73	729	14.61
1960	1705	6,540	July 13, 1960	32	453	.669	9.11	-	-

WABASH RIVER BASIN

3270. Mississinewa River at Peoria, Ind.

Location--Lat 40°43', long 85°57', in sec.10, T.26 N., R.5 E., on right upstream abutment of highway bridge at Peoria, 6 miles upstream from mouth and $6\frac{1}{2}$ miles southeast of Peru.

Drainage area--809 sq mi.

Records available--October 1952 to September 1960.

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 and crest-stage gages on highway bridge at same datum.

Average discharge--8 years (1952-60), 721 cfs.

Extremes--1952-60: Maximum discharge, 28,000 cfs June 11, 1958 (gage height, 19.26 ft); minimum, 13 cfs Mar. 15, 1960 (gage height, 1.28 ft); minimum daily, 24 cfs Mar. 14, 1960.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	85.4	202	612	960	843	1,871	829	1,254	281	224	137	60.3	614
1954	50.2	68.9	71.2	149	213	485	755	200	356	67.7	84.4	42.3	209
1955	330	189	503	1,363	759	1,496	723	215	262	856	208	86.5	584
1956	692	1,572	322	165	1,742	1,102	818	669	985	227	119	66.2	699
1957	52.8	80.8	189	688	1,001	474	4,046	1,371	1,941	1,558	165	289	981
1958	417	563	2,582	506	383	648	593	644	5,734	1,095	825	200	1,183
1959	136	786	309	1,857	2,822	1,370	2,239	973	265	152	117	101	913
1960	222	368	700	1,111	1,560	795	581	539	358	566	154	82.3	584

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	0.12	0.28	0.87	1.37	1.08	2.67	1.14	1.79	0.39	0.32	0.19	0.08	10.30
1954	.07	.09	.10	.21	.27	.69	1.04	.28	.49	.10	.09	.06	3.49
1955	.47	.26	.72	1.94	.98	2.13	1.00	.31	.36	1.22	.30	.12	9.81
1956	.99	2.16	.46	.24	2.32	1.57	1.13	.95	1.36	.32	.17	.09	11.76
1957	.07	.11	.27	.98	1.29	.68	5.58	1.95	2.68	2.22	.24	.40	16.47
1958	.59	.78	3.68	.72	.49	.92	.82	.92	7.91	1.56	1.18	.28	19.85
1959	.19	1.08	.44	2.65	3.63	1.95	3.09	1.38	.37	.22	.17	.14	15.31
1960	.32	.51	1.00	1.58	2.08	1.13	.80	.77	.49	.81	.22	.11	9.82

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	1275, 1335	8,350	Mar. 4, 1953	45	614	0.759	10.30	554	9.29
1954	1335	2,200	Apr. 18, 1954	31	209	.258	3.49	279	4.68
1955	1385	8,220	Jan. 6, 1955	26	584	.722	9.81	713	11.97
1956	1435	6,220	Nov. 18, 1955	46	699	.864	11.76	712	8.60
1957	1505	19,300	June 30, 1957	40	981	1.21	16.47	1,255	21.07
1958	1555	28,000	June 11, 1958	97	1,183	1.46	19.85	984	16.51
1959	1625	21,000	Feb. 10, 1959	60	913	1.13	15.31	919	15.43
1960	1705	7,180	Feb. 11, 1960	24	584	.722	9.82	-	-

3275. Wabash River at Peru, Ind.

Location.--Lat 40°44'35", long 86°05'45", in sec.32, T.27 N., R.4 E., near center of span on 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 1960. Discharge measurements only during May and July 1943.

Gage.--Wire-weight gage. Datum of gage is 617.94 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Average discharge.--17 years (1943-60), 2,486 cfs.

Extremes.--1943-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,200	3,480	5,746	5,058	8,194	4,469	5,080	2,808	1,228	1,043	249	180	3,193
1952	286	760	3,748	9,512	5,589	7,363	5,640	3,258	1,282	360	370	649	3,234
1953	231	506	1,509	2,656	2,300	6,254	2,486	2,837	807	648	483	128	1,742
1954	110	149	180	463	604	1,455	2,296	738	1,458	313	424	135	691
1955	2,078	712	1,657	3,963	2,092	6,649	2,269	593	704	2,022	674	150	1,973
1956	1,559	4,328	869	382	5,960	4,505	2,051	2,060	3,074	1,398	365	183	2,205
1957	145	202	551	1,932	2,394	1,792	14,840	4,285	4,260	5,767	535	777	3,109
1958	1,234	1,583	8,314	1,668	1,178	1,964	1,667	1,498	14,260	3,563	2,700	481	3,348
1959	388	2,290	863	7,529	10,740	4,288	7,736	3,968	1,648	735	304	282	3,342
1960	728	1,357	2,197	3,341	4,494	2,484	1,878	1,304	1,423	1,355	449	199	1,759

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.52	1.46	2.50	2.19	3.21	1.94	2.13	1.22	0.52	0.45	0.11	0.08	16.33
1952	.12	.32	1.63	4.13	2.27	3.20	2.12	1.23	.483	.136	.139	.244	16.58
1953	.10	.21	.66	1.15	.90	2.72	1.05	1.23	.34	.28	.21	.05	8.90
1954	.05	.06	.08	.20	.24	.63	.97	.32	.61	.14	.18	.06	3.54
1955	.90	.30	.72	1.72	.82	2.89	.95	.26	.30	.88	.29	.06	10.09
1956	.68	1.82	.58	.17	2.42	1.96	.86	.89	1.29	.61	.16	.08	11.32
1957	.06	.08	.24	.84	.94	.78	6.24	1.86	1.78	2.50	.23	.33	15.88
1958	.54	.66	3.61	.72	.46	.85	.71	.65	5.99	1.54	1.18	.20	17.11
1959	.17	.96	.37	3.27	4.21	1.87	3.25	1.72	.69	.32	.13	.12	17.08
1960	.32	.57	.95	1.45	1.82	1.08	.79	.57	.60	.59	.19	.08	9.01

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	4,924	26.17	
1951	1205	27,800	Dec. 5, 1950	132	3,193	1.20	16.33	2,723	13.92	
1952	1235	29,300	Mar. 13, 1952	160	3,234	1.22	16.58	3,019	15.48	
1953	1275	23,100	Mar. 5, 1953	102	1,742	.656	8.90	1,590	8.12	
1954	1335	8,520	Apr. 12, 1954	78	691	.260	3.54	1,030	5.27	
1955	1385	20,500	Mar. 5, 1955	112	1,973	.743	10.09	2,160	11.05	
1956	1435	20,500	Feb. 26, 1956	129	2,205	.831	11.32	1,720	8.82	
1957	1505	38,100	Apr. 6, 1957	119	3,109	1.17	15.88	3,974	20.31	
1958	1555	53,100	June 12, 1958	168	3,348	1.26	17.11	2,702	13.80	
1959	1625	48,000	Feb. 11, 1959	156	3,342	1.26	17.08	3,407	17.42	
1960	1705	20,800	Feb. 11, 1960	164	1,759	.663	9.01	-	-	

3280. Eel River at North Manchester, Ind.

Location.--Lat 40°59', long 85°46', in NE $\frac{1}{4}$ sec.5, T.29 N., R.7 E., on right bank 200 ft downstream from Main Street Bridge at North Manchester and 1 $\frac{1}{4}$ 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 1960. Prior to April 1930 monthly discharge only, published in WSP 1305.

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 or chain gage on downstream side of Second Street Bridge 700 ft upstream at same datum.

Average discharge.--31 years (1929-60), 357 cfs.

Extremes.--1929-60: 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.--Diurnal fluctuation caused by gristmill above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	98.5	259	704	787	1,216	726	827	450	300	767	233	102	535
1952	184	339	431	1,377	710	839	751	630	416	161	132	105	506
1953	92.4	112	167	322	307	729	396	283	107	81.5	76.3	55.4	227
1954	52.0	55.7	65.8	100	137	370	591	154	179	130	213	61.5	176
1955	1,165	269	405	569	398	945	528	223	168	264	150	68.4	431
1956	157	723	171	115	659	662	414	893	256	120	110	62.0	359
1957	59.5	76.3	102	226	342	222	*1,768	357	374	276	87.2	93.2	*329
1958	215	305	955	317	305	340	185	102	520	427	736	169	383
1959	96.4	272	168	670	1,772	618	963	511	376	175	81.6	76.5	472
1960	115	388	442	647	618	442	742	366	575	184	95.1	823	389

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.27	0.69	1.95	2.18	3.04	2.01	2.22	1.25	0.81	2.13	0.65	0.27	17.47
1952	.51	.91	1.19	3.82	1.84	2.33	2.01	1.75	1.12	.45	.36	.28	16.57
1953	.26	.30	.46	.89	.77	2.02	1.06	.79	.29	.23	.21	.15	7.43
1954	.14	.15	.18	.28	.34	1.02	1.58	.43	.48	.36	.59	.17	5.72
1955	1.23	.72	1.12	1.58	.97	2.62	1.42	.62	.45	.73	.42	.18	14.06
1956	.43	1.94	.47	.32	1.66	1.83	1.11	2.48	.69	.33	.30	.17	11.73
1957	.16	.20	.28	.63	.86	.62	*4.74	.99	1.00	.76	.24	.25	*10.73
1958	.60	.82	2.65	.88	.76	.94	.50	.28	1.40	1.19	2.04	.45	12.51
1959	.27	.73	.47	1.86	4.44	1.72	2.58	1.42	1.01	.49	.23	.21	15.43
1960	.32	1.04	1.22	1.80	1.61	1.22	1.99	1.02	1.54	.51	.26	.21	12.74

* Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	776	25.32
1951	1205	4,780	Feb. 21, 1951	81	535	1.29	17.47	526	17.17
1952	1235	4,240	Jan. 27, 1952	75	506	1.22	16.57	457	14.96
1953	1275	2,400	Mar. 4, 1953	48	227	.546	7.43	211	6.88
1954	1335	1,930	Apr. 11, 1954	32	176	.423	5.72	316	10.32
1955	1385	4,080	Oct. 12, 1954	59	431	1.04	14.06	363	11.83
1956	1435	3,170	Apr. 29, 1956	27	359	.863	11.73	292	9.53
1957	1505	*3,680	Apr. 6, 1957	16	*329	*.791	*10.73	*434	*14.16
1958	1555	3,960	Aug. 15, 1958	42	383	.921	12.51	303	9.91
1959	1625	7,050	Feb. 10, 1959	54	472	1.13	15.43	506	16.54
1960	1705	2,820	Apr. 17, 1960	46	389	.935	12.74	-	-

* Revised.

3285. Eel River near Logansport, Ind.

Location (revised).--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 1960.

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.--17 years (1943-60), 751 cfs.

Extremes.--1943-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	246	486	1,310	1,488	2,279	1,443	1,765	896	570	1,100	380	196	1,006
1952	304	557	836	2,376	1,494	1,560	1,644	1,404	900	309	284	242	992
1953	168	231	328	560	578	1,409	875	527	337	179	193	115	458
1954	122	137	139	212	222	524	886	359	396	284	476	145	324
1955	1,522	413	663	1,032	690	1,846	1,016	458	480	411	264	127	746
1956	269	1,220	382	213	1,278	1,147	644	1,196	639	321	260	151	640
1957	115	138	210	430	558	419	2,795	718	632	654	185	187	583
1958	370	547	1,650	611	456	630	377	245	1,899	748	1,078	294	743
1959	189	376	263	982	3,090	1,032	1,990	916	605	322	161	145	821
1960	244	583	658	1,000	1,130	814	1,225	893	912	418	256	162	689

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.36	0.69	1.91	2.17	3.00	2.10	2.49	1.31	0.80	1.60	0.55	0.28	17.26
1952	.44	.79	1.22	3.46	2.04	2.27	2.32	2.05	1.27	.45	.41	.34	17.06
1953	.24	.33	.48	.92	.76	2.05	1.23	.77	.48	.26	.28	.16	7.86
1954	.18	.19	.20	.31	.29	.76	1.25	.49	.56	.41	.69	.20	5.53
1955	2.21	.58	.97	1.50	.91	2.69	1.43	.67	.68	.60	.38	.18	12.80
1956	.39	1.72	.56	.31	1.75	1.67	.91	1.74	.90	.47	.38	.21	11.01
1957	.17	.19	.31	.63	.73	.61	3.94	1.05	.89	.95	.27	.26	10.00
1958	.54	.77	2.41	.89	.60	.92	.53	.56	2.67	1.09	1.57	.42	12.77
1959	.28	.53	.38	1.43	4.07	1.50	2.81	1.34	.85	.47	.24	.20	14.10
1960	.36	.82	.96	1.45	1.54	1.19	1.73	1.30	1.28	.61	.37	.23	11.84

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,535	26.34
1951	1205	9,050	Feb. 21, 1951	162	1,006	1.27	17.26	976	16.75
1952	1235	6,400	Jan. 27, 1952	162	992	1.25	17.06	910	15.66
1953	1275	4,820	Mar. 4, 1953	107	458	.579	7.86	430	7.38
1954	1335	2,660	Apr. 12, 1954	107	324	.410	5.53	510	8.72
1955	1385	7,570	Mar. 5, 1955	109	746	.943	12.80	682	11.71
1956	1435	4,960	Nov. 4, 1955	113	640	.809	11.01	523	9.01
1957	1505	5,760	Apr. 5, 1957	100	583	.737	10.00	761	13.05
1958	1555	8,000	June 14, 1958	139	743	.939	12.77	596	10.24
1959	1625	12,300	Feb. 10, 11, 1959	109	821	1.04	14.10	877	15.05
1960	1705	5,640	Mar. 29, 1960	70	689	.871	11.84	-	-

WABASH RIVER BASIN

3290. Wabash River at Logansport, Ind.

Location.--Lat 40°44'47", long 86°22'39", in NE $\frac{1}{4}$ 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 1960. 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 same site at datum approximately 2.85 ft higher.

Average discharge.--37 years (1923-60), 3,303 cfs.

Extremes.--1903-6, 1923-60: 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.--Some regulation at low flow by powerplant on tributary.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,852	4,338	7,567	6,867	10,957	6,378	7,598	4,035	1,832	2,353	659	422	4,513
1952	629	1,450	4,666	12,695	7,811	9,545	8,245	5,211	2,481	808	748	926	4,598
1953	486	817	1,984	3,415	3,078	7,942	3,835	3,572	1,256	855	785	311	2,364
1954	291	324	359	768	903	2,036	3,497	1,195	2,253	637	822	336	1,115
1955	3,799	1,132	2,329	5,114	3,111	8,655	3,732	1,144	1,228	2,647	1,014	308	2,863
1956	2,160	6,059	1,406	688	7,909	6,639	2,958	3,662	3,744	1,719	667	339	3,135
1957	229	345	831	2,381	2,937	2,307	17,520	5,356	4,797	6,521	826	1,026	3,739
1958	1,736	2,330	10,230	2,574	1,680	2,822	2,079	1,899	16,440	4,759	4,159	926	4,312
1959	676	2,758	1,256	7,776	15,880	5,634	10,680	5,467	2,363	1,172	505	471	4,467
1960	1,048	2,050	3,145	4,905	6,510	3,874	3,805	2,551	2,607	1,970	850	413	2,797

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.51	1.29	2.33	2.11	3.04	1.96	2.26	1.24	0.55	0.72	0.20	0.13	16.34
1952	.19	.43	1.43	3.90	2.25	2.93	2.45	1.60	.74	.25	.23	.28	16.68
1953	.15	.24	.61	1.05	.85	2.44	1.14	1.10	.37	.26	.24	.09	8.54
1954	.09	.10	.11	.24	.25	.63	1.04	.37	.67	.20	.25	.10	4.05
1955	1.16	.34	.72	1.57	.86	2.66	1.11	.35	.36	.81	.31	.09	10.34
1956	.66	1.81	.43	.21	2.28	2.04	.88	1.13	1.11	.53	.21	.10	11.39
1957	.07	.10	.26	.73	.82	.71	5.21	1.65	1.43	2.01	.25	.31	13.55
1958	.53	.69	3.15	.79	.47	.87	.62	.58	4.89	1.46	1.28	.28	15.61
1959	.21	.82	.39	2.39	4.40	1.73	3.18	1.68	.70	.36	.16	.14	16.16
1960	.32	.61	.97	1.51	1.88	1.19	1.13	.78	.78	.61	.26	.12	10.16

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	7,097	25.70
1951	1205	33,500	Feb. 22, 1951	380	4,513	1.20	16.34	3,942	14.26
1952	1235	34,800	Mar. 13, 1952	338	4,598	1.23	16.68	4,307	15.63
1953	1275	28,100	Mar. 5, 1953	233	2,364	.630	8.54	2,169	7.84
1954	1335	13,200	Apr. 12, 1954	220	1,115	.297	4.05	1,647	5.97
1955	1385	27,200	Mar. 5, 1955	241	2,863	.763	10.34	3,050	11.02
1956	1435	25,400	Feb. 26, 1956	241	3,135	.836	11.39	2,455	8.92
1957	1505	39,500	Apr. 7, 1957	202	3,739	.997	13.55	4,829	17.49
1958	1555	52,500	June 12, 1958	419	4,312	1.15	15.61	3,495	12.66
1959	1625	69,000	Feb. 11, 1959	288	4,467	1.19	16.16	4,601	16.64
1960	1705	28,200	Feb. 11, 1960	346	2,797	.746	10.16	-	-

3295. Wabash River at Delphi, Ind.

Location.--Lat 40°35'26", long 86°41'54", in SE $\frac{1}{4}$ (corrected) 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 1960. 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.--21 years (1939-60), 3,507 cfs.

Extremes.--1939-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.50	1.22	2.37	2.11	3.07	1.90	2.26	1.25	0.56	0.83	0.21	0.12	16.40
1952	.19	.42	1.33	3.80	2.26	2.86	2.55	1.73	.82	.25	.24	.27	16.72
1953	.15	.24	.58	.99	.82	2.57	1.12	1.05	.39	.28	.21	.09	8.49
1954	.09	.10	.12	.23	.24	.57	.99	.35	.66	.19	.25	.10	3.89
1955	1.05	.33	.69	1.71	.85	2.70	1.14	.47	.43	.79	.31	.10	10.57
1956	.69	1.75	.44	.23	2.25	1.91	.84	1.11	1.12	.50	.20	.12	11.16
1957	.09	.12	.24	.72	.71	.69	5.02	1.61	1.28	2.10	.26	.30	13.14
1958	.50	.70	2.97	.83	.45	.88	.61	.55	5.29	1.54	1.35	.28	15.95
1959	.22	.78	.42	2.64	4.46	1.72	3.06	1.73	.64	.36	.16	.15	16.34
1960	.31	.58	.86	1.44	1.67	1.02	1.15	.77	.74	.58	.34	.14	9.60

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,734	4,395	8,272	7,374	11,873	6,639	8,170	4,355	2,035	2,907	721	448	4,866
1952	850	1,507	4,647	13,290	8,443	10,010	9,200	6,059	2,977	873	848	958	4,950
1953	507	851	2,030	3,464	3,167	8,995	4,032	3,858	1,393	970	746	318	2,515
1954	308	376	423	809	942	2,005	3,580	1,239	2,382	660	857	364	1,158
1955	3,673	1,189	2,411	5,970	3,286	9,425	4,115	1,627	1,539	2,757	1,073	349	3,131
1956	2,427	6,316	1,540	797	8,429	6,693	3,036	3,873	4,033	1,763	898	430	3,307
1957	318	423	823	2,510	2,733	2,427	18,160	5,826	4,639	7,343	915	1,086	3,903
1958	1,757	2,514	10,400	2,889	1,756	3,075	2,215	1,939	19,100	5,411	4,709	1,027	4,741
1959	770	2,852	1,458	9,231	17,250	5,994	11,030	6,054	2,315	1,255	566	528	4,848
1960	1,093	2,114	2,999	5,060	6,267	3,580	4,160	2,708	2,690	2,044	1,180	510	2,854

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	7,822	26.35
1951	1205	35,500	Feb. 22, 1951	393	4,866	1.21	16.40	4,228	14.25
1952	1235	35,200	Jan. 28, 1952	399	4,950	1.23	16.72	4,662	15.75
1953	1275	28,100	Mar. 5, 1953	285	2,515	.624	8.49	2,322	7.83
1954	1335	12,100	Apr. 12, 1954	247	1,158	.287	3.89	1,660	5.65
1955	1365	29,600	Mar. 5, 1955	296	3,131	.777	10.57	3,373	11.38
1956	1435	29,600	Feb. 26, 1956	315	3,307	.820	11.16	2,585	8.73
1957	1505	41,200	Apr. 7, 1957	280	3,903	.968	13.14	5,011	16.86
1958	1555	61,500	June 14, 1958	480	4,741	1.18	15.95	3,924	13.20
1959	1625	71,500	Feb. 11, 1959	335	4,848	1.20	16.34	4,947	16.67
1960	1705	25,400	Feb. 11, 1960	438	2,854	.708	9.60	-	-

3297. Deer Creek near Delphi, Ind.

Location.--Lat 40°36', long 86°37', on line between SE $\frac{1}{4}$ sec.22 and NE $\frac{1}{4}$ sec.27, T.25 N., R.2 W., on downstream side of left wingwall of highway bridge, 3 miles northeast of Delphi and 4 $\frac{1}{2}$ miles upstream from mouth.

Drainage area.--278 sq mi.

Records available.--October 1943 to September 1960. Prior to March 1944 monthly discharge only, published in WSP 1805.

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.--17 years (1943-60), 247 cfs.

Extremes.--1943-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	70.5	205	562	415	683	306	472	220	86.6	129	34.4	22.6	248
1952	27.7	55.4	144	566	557	561	844	618	298	62.9	91.6	109	327
1953	39.0	76.9	182	260	211	682	272	267	108	78.5	38.5	17.4	187
1954	15.9	22.7	24.7	48.0	36.1	46.8	138	86.5	293	24.6	20.7	10.5	83.7
1955	63.8	30.9	92.0	261	117	353	288	159	173	354	45.9	17.7	162
1956	430	555	155	74.0	556	535	135	222	149	42.7	31.4	12.4	240
1957	15.3	28.8	40.8	78.3	129	98.5	933	413	411	669	87.3	81.6	248
1958	108	156	638	201	120	162	100	83.0	1,799	644	537	62.1	385
1959	45.2	162	91.7	474	1,039	413	1,109	294	59.8	39.8	33.9	38.5	310
1960	72.5	118	151	199	451	300	320	320	126	276	429	57.1	235

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.29	0.82	1.50	1.72	2.56	1.27	1.90	0.91	0.35	0.54	0.14	0.09	12.09
1952	.11	.22	.80	2.35	2.16	2.33	3.39	2.56	1.20	.26	.58	.44	16.00
1953	.16	.31	.75	1.08	.79	2.83	1.09	1.11	.43	.33	.16	.07	9.11
1954	.07	.09	.10	.20	.14	.19	.55	.36	1.17	.10	.09	.04	3.10
1955	.26	.12	.38	1.08	.44	1.46	1.16	.58	.69	1.46	.19	.07	7.89
1956	1.79	2.23	.64	.31	2.16	2.21	.54	.92	.60	.18	.13	.05	11.76
1957	.06	.12	.17	.33	.48	.41	3.75	1.72	1.65	2.78	.36	.33	12.16
1958	.45	.63	2.64	.83	.45	.67	.40	.34	7.22	2.68	2.22	.25	18.78
1959	.19	.65	.36	1.96	3.90	1.72	4.45	1.22	.24	.16	.14	.15	15.16
1960	.30	.47	.63	.83	1.75	1.24	1.28	1.33	.51	1.14	1.78	.23	11.49

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	495	24.16	
1951	1205	2,950	Feb. 21, 1951	17	248	0.892	12.09	213	10.41	
1952	1235	5,360	Apr. 24, 1952	17	327	1.18	16.00	333	16.29	
1953	1275	3,390	Mar. 4, 1953	13	187	.673	9.11	167	8.15	
1954	1335	1,800	June 1, 1954	6.2	63.7	.229	5.10	74.1	3.60	
1955	1385	2,350	July 16, 1955	10	162	.583	7.89	242	11.79	
1956	1435	4,360	Oct. 7, 1955	10	240	.863	11.76	152	7.45	
1957	1505	4,960	July 17, 1957	10	248	.892	12.16	318	15.53	
1958	1555	14,400	June 10, 1958	35	385	1.38	18.78	334	16.28	
1959	1625	12,100	Feb. 10, 1959	19	310	1.12	15.16	314	15.34	
1960	1705	3,230	Aug. 3, 21, 1960	35	235	.845	11.49	-	-	

3305. Tippecanoe River at Oswego, Ind.

Location.--Lat 41°19'14", long 85°47'21", in NE¼NE¼ 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 1960.

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.--11 years (1949-60), 115 cfs.

Extremes.--1949-60: 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.--Occasional regulation by flashboards at lake outlet.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	62.5	55.4	178	170	193	240	224	146	76.5	161	107	67.4	140
1952	53.8	101	134	272	275	199	218	152	149	94.2	67.5	48.8	147
1953	42.1	23.5	34.3	58.4	85.0	135	112	104	60.7	11.4	14.3	5.33	57.0
1954	4.73	7.25	23.7	21.6	42.5	85.4	245	154	83.3	81.1	59.6	62.0	72.5
1955	369	141	95.7	187	97.9	206	129	86.0	53.8	51.8	37.1	9.79	123
1956	55.7	132	85.8	47.7	92.1	183	120	340	102	45.6	31.5	20.8	105
1957	9.45	9.75	33.5	42.6	71.7	83.8	241	137	66.1	57.4	15.9	26.9	66.0
1958	18.9	28.2	90.6	131	55.8	107	72.0	30.8	52.1	107	176	237	92.4
1959	120	90.0	79.2	86.0	352	258	265	135	75.7	135	29.4	19.2	135
1960	86.3	113	103	184	172	103	230	198	237	109	35	40	134

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.63	0.54	1.79	1.70	1.75	2.41	2.17	1.46	0.74	1.61	1.07	0.65	16.52
1952	.54	.98	1.35	2.73	2.58	1.99	2.12	1.52	1.45	.94	.68	.47	17.35
1953	.42	.23	.34	.59	.77	1.35	1.09	1.04	.59	.11	.14	.05	6.72
1954	.05	.07	.24	.22	.39	.86	2.38	1.54	.81	.81	.60	.60	8.57
1955	5.70	1.37	.96	1.88	.89	2.06	1.25	.86	.52	.52	.37	.09	14.47
1956	.56	1.28	.86	.48	.86	1.83	1.16	3.41	.99	.46	.32	.20	12.41
1957	.09	.09	.34	.43	.65	.84	2.34	1.37	.64	.58	.16	.26	7.79
1958	.19	.27	.91	1.31	.50	1.07	.70	.31	.51	1.07	1.76	2.30	10.90
1959	1.20	.87	.79	.86	3.19	2.58	2.57	1.35	.72	1.35	.30	.19	15.97
1960	.86	1.10	1.03	1.84	1.62	1.03	2.23	1.98	2.30	1.09	.35	.39	15.82

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches		Mean	Runoff in inches
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	203	23.92
1951	1205	430	Feb. 27, 28, 1951	32	140	1.22	16.52	139	139	16.43
1952	1235	370	Jan. 30, 1952	37	147	1.28	17.35	131	131	15.47
1953	1275	179	Mar. 22, 23, 1953	3.1	57.0	.496	6.72	51.6	51.6	6.09
1954	1335	322	Apr. 29, 30, 1954	2.9	72.5	.630	8.57	120	120	14.24
1955	1385	700	Oct. 17, 1954	2.0	123	1.07	14.47	94.4	94.4	11.14
1956	1435	450	May 5, 6, 13, 14, 1956	7.8	105	.913	12.41	88.5	88.5	10.23
1957	1505	315	Apr. 17-23, 1957	2.2	66.0	.574	7.79	73.2	73.2	8.64
1958	1555	383	Sept. 19-23, 1958	6.5	92.4	.803	10.90	105	105	12.39
1959	1625	548	Feb. 18, 1959	7.1	135	1.17	15.97	136	136	16.10
1960	1705	383	June 17-22, 1960	23	134	1.17	15.82	-	-	-

3315. Tippecanoe River near Ora, Ind.

Location.--Lat 41°10', long 86°34', in NE $\frac{1}{4}$ 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 1960. 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.--17 years (1943-60), 821 cfs.

Extremes.--1943-60: Maximum discharge, 7,800 cfs Apr. 5, 1950 (gage height, 14.40 ft); minimum, 122 cfs Sept. 2, 3, 1953; minimum gage height, 4.15 ft Aug. 14, 1944, Oct. 16, 17, 1946.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	296	452	930	1,397	1,922	1,626	2,072	1,117	749	1,311	522	354	1,057
1952	529	874	986	1,932	1,780	1,466	1,715	1,287	1,130	562	431	306	1,080
1953	303	353	440	582	728	1,076	936	755	502	263	201	145	523
1954	134	155	203	245	344	681	1,490	945	547	567	376	225	493
1955	1,701	743	604	1,211	934	1,677	1,021	600	489	332	264	171	813
1956	380	718	413	280	886	1,014	850	2,487	749	357	308	206	721
1957	154	174	269	332	474	451	1,754	913	593	803	256	218	531
1958	344	561	1,068	904	536	811	525	337	1,306	1,001	1,357	1,224	833
1959	710	712	546	715	3,020	1,595	1,594	1,124	689	651	286	213	973
1960	542	874	776	1,161	1,409	950	2,073	1,286	938	648	410	328	946

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.41	0.60	1.28	1.92	2.39	2.23	2.76	1.54	1.00	1.80	0.72	0.47	17.12
1952	.73	1.16	1.35	2.66	2.29	2.01	2.28	1.77	1.50	.77	.59	.41	17.52
1953	.42	.47	.60	.80	.90	1.48	1.24	1.04	.67	.36	.28	.19	8.45
1954	.16	.21	.28	.34	.43	.94	1.99	1.30	.73	.78	.52	.30	8.00
1955	2.34	.99	.83	1.66	1.16	2.31	1.36	.82	.65	.46	.36	.23	13.17
1956	.52	.96	.57	.39	1.14	1.44	1.13	3.41	1.00	.49	.42	.27	11.74
1957	.21	.23	.37	.46	.59	.62	2.33	1.26	.79	1.10	.35	.29	8.60
1958	.47	.75	1.46	1.24	.67	1.11	.70	.46	1.74	1.37	1.87	1.63	15.47
1959	.98	.95	.75	.98	3.75	2.19	2.12	1.54	.92	.89	.39	.28	15.74
1960	.74	1.16	1.07	1.59	1.81	1.30	2.76	1.76	1.25	.89	.56	.44	15.33

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	819	13.25
1951	1205	3,940	Feb. 22, 1951	250	1,057	1.26	17.12	1,116	18.07
1952	1235	3,140	Jan. 29, 1952	245	1,080	1.29	17.52	972	15.77
1953	1275	1,840	Mar. 16, 1953	122	523	.623	8.45	472	7.63
1954	1335	2,150	Apr. 12, 13, 1954	128	493	.588	8.00	708	11.49
1955	1385	3,540	Oct. 15-17, 1954	140	813	.969	13.17	683	11.06
1956	1435	5,800	May 1, 1956	164	721	.859	11.74	645	10.50
1957	1505	2,540	Apr. 20, 1957	144	531	.633	8.60	647	10.47
1958	1555	2,880	June 12, 1958	176	833	.993	13.47	832	13.47
1959	1625	7,120	Feb. 14, or 15, 1959	152	973	1.16	15.74	992	16.03
1960	1705	4,300	Apr. 19, 1960	255	946	1.13	15.33	-	-

3323. Little Indian Creek near Royal Center, Ind.

Location.--Lat 40°53', long 86°35', in NW $\frac{1}{4}$ 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 1960.

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

Extremes.--1959-60: Maximum discharge, 338 cfs Apr. 17, 1960 (gage height, 5.95 ft); minimum, 1.4 cfs Sept. 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	4.80	2.60	-
1960	5.73	18.3	19.9	23.7	53.8	36.1	62.5	46.5	34.9	13.2	15.9	5.40	27.8

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	0.16	0.08	-
1960	0.19	0.58	0.66	0.78	1.66	1.19	2.00	1.53	1.11	0.43	.52	.18	10.83

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1959	1705	-	-	-	-	-	-	-	-
1960	1705	338	Apr. 17, 1960	1.6	27.8	0.794	10.83	-	-

3324. Big Monon Creek near Francesville, Ind.

Location.--Lat 40°59', long 86°52', in NE $\frac{1}{4}$ 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, 11.1 miles upstream from Little Monon Creek, and 13.3 miles upstream from mouth.

Drainage area.--145 sq mi.

Records available.--August 1959 to September 1960.

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

Extremes.--1959-60: Maximum discharge, 1,940 cfs Apr. 17, 1960 (gage height, 12.85 ft); minimum, 14 cfs Sept. 21, 25, 26, 1959; minimum gage height, 1.10 ft Sept. 21, 1959. Maximum stage known, about 18.6 ft in spring of 1957, from information by local residents.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	-	22.7	-
1960	56.0	160	134	152	269	202	350	147	154	66.8	44.6	32.6	146

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	-	0.18	-
1960	0.45	1.23	1.07	1.21	2.01	1.60	2.69	1.16	1.18	0.53	0.36	.25	13.74

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1959	1705	-	-	-	-	-	-	-	-
1960	1705	1,940	Apr. 17, 1960	22	146	101	13.74	-	-

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 1960.

Average discharge.--29 years (1931-60), 1,475 cfs.

Extremes.--1931-60: 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	628	796	1,686	2,636	3,842	3,203	3,975	2,017	1,204	2,780	846	553	2,003
1952	1,047	1,857	1,728	3,513	3,187	2,791	3,412	2,529	2,554	866	750	454	2,051
1953	398	469	650	943	1,259	2,369	1,894	1,351	1,099	712	417	255	983
1954	235	264	274	385	566	988	2,305	1,304	1,032	727	533	587	765
1955	2,380	1,091	914	2,022	1,311	3,003	1,894	1,211	1,337	726	445	283	1,388
1956	858	1,284	768	528	1,730	1,821	1,578	3,853	1,156	654	464	303	1,249
1957	254	292	383	463	730	699	3,646	1,807	1,573	2,422	541	413	1,101
1958	747	1,304	2,716	1,634	945	1,466	950	616	5,697	2,331	2,170	1,540	1,845
1959	922	1,166	881	1,251	5,520	3,227	3,744	2,106	960	795	426	301	1,747
1960	751	1,477	1,410	1,849	2,816	1,892	4,090	2,161	1,636	967	683	491	1,676

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.42	0.52	1.14	1.78	2.34	2.16	2.59	1.36	0.79	1.87	0.57	0.36	15.90
1952	.71	1.21	1.16	2.37	2.01	1.88	2.23	1.71	1.67	.58	.51	.50	16.34
1953	.27	.31	.44	.64	.77	1.60	1.24	.91	.72	.48	.28	.17	7.83
1954	.16	.17	.18	.26	.34	.67	1.51	.88	.67	.49	.36	.38	6.07
1955	1.60	.71	.62	1.36	.80	2.03	1.24	.82	.87	.49	.30	.18	11.02
1956	.58	.84	.52	.36	1.09	1.22	1.03	2.59	.75	.44	.31	.20	9.93
1957	.17	.19	.26	.31	.44	.47	2.38	1.22	1.03	1.64	.36	.27	8.74
1958	.50	.85	1.83	1.10	.58	.99	.62	.42	3.72	1.57	1.46	1.01	14.65
1959	.62	.76	.59	.84	3.36	2.18	2.44	1.42	.63	.54	.29	.20	13.87
1960	.51	.96	.95	1.24	1.78	1.28	2.67	1.45	1.07	.65	.46	.32	13.34

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Maximum daily		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	3,102	24.61
1951	1205	13,000	Feb. 21, 1951	382	2,003	1.17	15.90	2,129	16.90
1952	1235	10,400	June 14, 1952	385	2,051	1.20	16.34	1,791	14.28
1953	1275	5,570	Mar. 15, 1953	180	983	.575	7.83	920	7.32
1954	1335	6,440	Apr. 29, 1954	115	765	.447	6.07	1,070	8.49
1955	1385	6,100	Mar. 4, 1955	168	1,388	.812	11.02	1,262	10.03
1956	1435	7,840	Apr. 30, 1956	155	1,249	.730	9.93	1,084	8.61
1957	1505	8,870	July 17, 1957	192	1,101	.644	8.74	1,424	11.30
1958	1555	16,800	June 13, 1958	239	1,845	1.08	14.65	1,692	13.44
1959	1625	16,300	Feb. 10, 1959	155	1,747	1.02	13.87	1,803	14.32
1960	1705	11,000	Apr. 17, 1960	308	1,676	.980	13.34	-	-

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 1960. 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.--21 years (1939-60), 1,610 cfs.

Extremes.--1903-6, 1908, 1939-60: 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.--Flow regulated by powerplant above station.

Correction.--In WSP 1305 the mean monthly discharge and the runoff in inches for December 1905 were omitted. They should be 1,799 cfs and 1.12 inches, respectively.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	754	917	1,856	2,819	3,931	3,284	4,001	2,163	1,397	3,089	1,077	658	2,152
1952	1,103	2,062	1,914	3,646	3,342	2,995	3,629	2,786	2,820	1,005	862	534	2,218
1953	449	538	741	1,078	1,389	2,478	2,045	1,541	1,228	941	474	295	1,098
1954	268	329	357	456	645	1,073	2,378	1,519	1,198	792	575	844	868
1955	2,598	713	938	2,135	1,574	2,927	2,113	1,363	1,473	904	589	353	1,445
1956	1,080	1,448	827	571	1,956	2,058	1,737	3,874	1,239	720	490	291	1,355
1957	268	334	438	518	791	748	3,699	2,059	1,876	2,935	632	439	1,228
1958	836	1,458	2,885	1,806	1,061	1,605	1,070	666	6,064	2,521	2,325	1,638	1,996
1959	1,010	1,296	920	1,331	5,581	3,369	4,054	2,247	1,009	819	423	308	1,836
1960	793	1,591	1,485	2,034	2,990	2,106	4,207	2,367	1,833	1,031	800	519	1,804

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.47	0.55	1.15	1.75	2.20	2.04	2.40	1.34	0.84	1.92	0.67	0.40	15.73
1952	.68	1.24	1.19	2.26	1.94	1.86	2.18	1.73	1.69	.62	.54	.32	16.25
1953	.28	.32	.46	.67	.78	1.54	1.23	.96	.74	.58	.29	.18	8.03
1954	.17	.20	.22	.28	.36	.67	1.43	.94	.72	.49	.36	.51	6.35
1955	1.49	.43	.58	1.33	.77	1.82	1.27	.86	.88	.56	.37	.21	10.57
1956	.67	.87	.51	.35	1.12	1.28	1.04	2.41	.74	1.45	.30	.18	9.92
1957	.17	.20	.27	.32	.44	.46	2.22	1.28	1.13	1.82	.39	.26	8.96
1958	.52	.68	1.79	1.12	.59	1.00	.64	.41	3.65	1.57	1.44	.98	14.59
1959	.63	.78	.57	.83	3.13	2.09	2.43	1.40	.61	.51	.26	.19	13.43
1960	.49	.96	.92	1.27	1.74	1.30	2.53	1.46	1.10	.64	.50	.51	13.22

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	3,177	23.22
1951	1205	15,000	Feb. 21, 1951	420	2,152	1.16	15.73	2,281	16.67
1952	1235	12,400	June 14, 1952	351	2,218	1.19	16.25	1,839	14.20
1953	1275	6,960	June 11, 1953	239	1,098	.581	8.03	1,033	7.56
1954	1335	6,500	Apr. 29, 1954	210	868	.467	6.35	1,130	8.27
1955	1385	5,840	Jan. 6, 1955	1	1,445	.778	10.57	1,384	10.12
1956	1435	10,400	Apr. 29, 1956	191	1,355	.730	9.92	1,161	8.51
1957	1505	18,800	July 17, 1957	176	1,228	.661	8.96	1,576	11.51
1958	1555	21,400	June 10, 1958	253	1,996	1.07	14.59	1,831	13.38
1959	1625	22,600	Feb. 10, 1959	143	1,836	.989	13.43	1,689	13.82
1960	1705	14,200	Apr. 18, 1960	220	1,804	.971	13.22	-	-

3335. Wildcat Creek at Greentown, Ind.

Location--Lat 40°27', long 85°57', on line between secs. 9 and 10, T.23 N., R.5 E., on left bank at downstream side of bridge on State Highway 213, 1.5 miles south of Greentown.

Drainage area--162 sq mi. At site used prior to June 5, 1954, 172 sq mi.

Records available--October 1944 to September 1960. Prior to February 1945 monthly discharge only, published in WSP 1305.

Gage--Water-stage recorder. Datum of gage is 809.33 ft above mean sea level, datum of 1929. Prior to June 5, 1954, wire-weight gage at bridge 2.0 miles downstream at datum 5.34 ft lower.

Average discharge--16 years (1944-60), 150 cfs.

Extremes--1944-60: Maximum discharge, 6,320 cfs Jan. 4, 1950 (gage height, 15.3 ft, site and datum then in use); minimum, 0.9 cfs Sept. 21, 1947.

Flood in March 1913 reached a stage of 18.9 ft, from floodmarks, site and datum used prior to June 5, 1954. Flood in May 1943 reached a stage of 15.0 ft, from floodmarks, site and datum used prior to June 5, 1954 (discharge, 5,960 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22.3	246	316	307	491	214	331	161	30.6	63.4	5.94	2.95	180
1952	5.03	54.5	218	442	385	442	337	262	77.8	68.8	21.4	35.0	195
1953	10.9	35.5	109	179	131	371	245	197	103	70.9	35.8	6.04	125
1954	5.97	6.90	5.53	24.3	42.0	65.8	114	34.1	75.2	6.59	3.63	1.99	31.7
1955	24.3	17.6	46.3	261	118	254	159	59.0	70.3	157	15.0	6.89	99.1
1956	65.1	193	73.1	22.4	264	162	67.5	221	154	49.5	11.1	4.00	106
1957	6.01	6.35	21.6	112	200	128	615	219	418	326	34.9	110	198
1958	119	181	566	91.5	49.4	78.9	50.1	45.5	921	223	154	18.0	209
1959	13.8	202	85.1	367	550	229	446	216	45.3	14.8	5.71	5.29	180
1960	20.0	45.0	101	136	233	151	132	52.5	60.5	109	34.2	19.5	90.5

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.15	1.60	2.12	2.05	2.97	1.44	2.15	1.08	0.20	0.42	0.04	0.02	14.24
1952	.03	.35	1.46	2.96	2.41	2.96	2.18	1.76	.50	.46	.14	.23	15.44
1953	.07	.23	.73	1.20	.79	2.49	1.59	1.32	.67	.48	.24	.04	9.85
1954	.03	.04	.04	.16	.25	.45	.74	.23	.52	.05	.03	.01	2.55
1955	.17	.12	.33	1.86	.76	1.81	1.09	.42	.48	1.12	.11	.05	8.32
1956	.45	1.33	.52	.16	1.76	1.15	.47	1.57	1.06	.35	.08	.03	8.93
1957	.04	.04	.15	.80	1.28	.91	5.61	1.56	2.86	2.32	.25	.76	16.60
1958	.85	1.25	4.02	.65	.32	.56	.34	.32	6.35	1.59	1.10	.12	17.47
1959	.10	1.40	.61	2.76	3.54	1.63	3.07	1.53	.31	.10	.04	.04	15.13
1960	.14	.30	.72	.97	1.55	1.07	.91	.37	.42	.78	.24	.13	7.60

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	305	24.10
1951	1205	2,020	Feb. 21, 1951	1.6	180	1.05	14.24	155	12.21
1952	1235	2,580	Mar. 11, 1952	1.0	195	1.13	15.44	185	14.63
1953	1275	1,810	Mar. 4, 1953	4.5	125	.727	9.85	113	8.93
1954	1335	450	Apr. 12, 1954	1.6	31.7	.184	2.55	37.9	3.06
1955	1385	*1,950	Jan. 7, 1955	1.6	99.1	.612	8.32	119	10.00
1956	1435	*1,950	May 28, 1956	1.6	108	.654	8.93	81.7	6.86
1957	1505	4,180	June 29, 1957	1.1	198	1.22	16.60	269	22.49
1958	1555	4,900	June 10, 1958	8.6	209	1.29	17.47	160	13.46
1959	1625	5,390	Feb. 10, 1959	2.8	180	1.11	15.13	169	14.18
1960	1705	1,100	Mar. 29, 1960	4.8	90.5	.559	7.60	-	-

* Revised.

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 1960.

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

Extremes.--1959-60: Maximum discharge, 232 cfs Mar. 28 (gage height, 4.29 ft); minimum, 0.4 cfs Aug. 27, 28, Sept. 13-15, 1959; minimum gage height, 1.30 ft Aug. 12, 27, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	1.11	1.17	-
1960	3.83	4.90	17.3	22.9	34.0	27.6	26.5	15.3	7.55	19.2	2.82	1.29	15.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	-	0.05	0.05	-
1960	0.18	0.23	0.82	1.09	1.51	1.31	1.22	0.73	0.35	0.91	.13	.06	8.54

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1959	-	-	-	-	-	-	-	-	-	-
1960	1705	232	Mar. 28, 1960	a0.4 .7	15.2	0.626	8.54	-	-	-

a Minimum during period July to September.

3337. Wildcat Creek at Kokomo, Ind.

Location.--Lat 40°28', long 86°09', in NW¹/₄ 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, on property of Continental Steel Corp.

Drainage area.--245 sq mi.

Records available.--October 1955 to September 1960.

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

Average discharge.--5 years (1955-60), 249 cfs.

Extremes.--1955-60: Maximum discharge, 8,100 cfs Feb. 10, 1959 (gage height, 10.83 ft); minimum, 5.0 cfs Sept. 30, 1956; minimum gage height, 1.12 ft Aug. 3, 10, 15, 23, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	119	304	119	43.5	400	269	104	342	243	70.5	34.8	12.8	171
1957	11.2	15.5	32.3	105	259	187	1,117	345	548	508	60.9	141	276
1958	171	258	928	170	60.8	121	97.1	89.6	1,432	377	369	40.2	344
1959	27.9	327	133	494	946	387	801	385	72.7	29.1	31.3	34.3	300
1960	32.3	49.0	151	229	333	222	245	141	111	244	52.3	31.3	155

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0.56	1.38	0.56	0.21	1.76	1.27	0.47	1.61	1.11	0.53	0.16	0.06	9.48
1957	.05	.07	.15	.49	1.10	.93	5.09	1.63	2.50	2.39	.29	.64	15.33
1958	.80	1.17	4.37	.80	.26	.57	.44	.42	6.52	1.78	1.74	.18	19.05
1959	.13	1.48	.63	2.53	4.02	1.82	3.65	1.81	.35	.14	.15	.18	16.65
1960	.15	.22	.71	1.08	1.47	1.04	1.12	.66	.51	1.15	.25	.14	8.50

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1956	1435	2,060	May 29, 1956	7.2	171	0.698	9.48	131	7.25	
1957	1505	4,860	June 29, 1957	8.0	276	1.13	15.33	386	21.40	
1958	1555	6,920	June 10, 1958	14	344	1.40	19.05	270	14.95	
1959	1625	8,100	Feb. 10, 1959	14	500	1.22	16.65	279	15.49	
1960	1705	1,410	Mar. 29, 1960	22	153	.624	8.50	-	-	

WABASH RIVER BASIN

3340. Wildcat Creek at Owasco, Ind.

Location--Lat 40°28', long 86°38', in SW $\frac{1}{4}$ sec.3, T.23 N., R.2 W., on left bank just downstream from highway 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 1960. 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 200 ft upstream at same datum.

Average discharge--17 years (1943-60), 379 cfs.

Extremes--1943-60: 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 of May 18, 1943, reached a stage of 14.0 ft, from floodmarks.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	88.9	437	672	621	1,098	507	723	389	120	210	47.1	32.9	408
1952	40.0	137	350	952	934	1,034	1,015	984	374	163	95.5	151	518
1953	53.7	115	329	452	331	984	626	433	202	206	101	37.3	323
1954	28.3	32.0	33.0	66.3	82.2	154	317	120	327	41.5	37.1	20.6	104
1955	115	62.0	163	627	216	749	453	205	237	407	59.6	35.1	279
1956	236	544	215	93.5	682	505	196	652	449	110	67.6	26.6	313
1957	24.7	40.2	72.5	195	359	341	1,857	651	694	1,158	145	235	480
1958	251	369	1,325	300	147	213	172	151	2,536	721	707	87.8	583
1959	55.5	422	210	872	1,725	644	1,201	627	137	75.6	76.2	69.6	500
1960	89.1	124	257	364	585	372	432	304	166	383	232	67.0	281

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.26	1.25	1.99	1.84	2.93	1.50	2.07	1.15	0.34	0.62	0.14	0.09	14.18
1952	.12	.39	1.03	2.81	2.58	3.06	2.90	2.91	1.07	.45	.28	.43	18.06
1953	.16	.33	.97	1.34	.88	2.91	1.79	1.28	.58	.61	.30	.11	11.26
1954	.08	.09	.10	.20	.22	.46	.91	.35	.93	.12	.11	.06	3.63
1955	.34	.18	.48	1.86	.58	2.21	1.29	.61	.68	1.20	.18	.10	9.71
1956	.70	1.55	.64	.28	1.89	1.49	.56	1.92	1.28	.33	.20	.08	10.92
1957	.07	.11	.21	.58	.96	1.01	5.31	1.92	1.99	3.42	.43	.67	16.68
1958	.74	1.06	3.92	.89	.39	.63	.49	.45	7.25	2.13	2.09	.25	20.29
1959	.16	1.20	.62	2.58	4.60	1.90	3.44	1.86	.39	.22	.22	.20	17.39
1960	.26	.35	.76	1.08	1.62	1.10	1.23	.90	.48	1.13	.69	.19	9.79

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	737	25.65
1951	1205	3,170	Feb. 22, 1951	27	408	1.05	14.18	351	12.22
1952	1235	3,390	Mar. 13, May 26	28	518	1.33	18.06	515	17.99
1953	1275	2,820	Mar. 6, 1953	28	325	.828	11.26	289	10.07
1954	1335	1,400	June 1, 1954	14	104	.267	3.63	125	4.36
1955	1385	3,170	Mar. 2, 1955	14	279	.715	9.71	333	11.60
1956	1435	3,030	May 28, 1956	20	313	.803	10.92	242	8.42
1957	1505	4,000	July 1, 1957	20	480	1.23	16.68	632	22.01
1958	1555, 1625	9,400	June 11, 1958	54	583	1.49	20.29	476	16.55
1959	1625	9,880	Feb. 11, 1959	34	500	1.28	17.41	482	16.78
1960	1705	2,190	Mar. 30, 1960	41	291	.720	9.79	-	-

3345. South Fork Wildcat Creek near Lafayette, Ind.

Location.--Lat 40°24', long 86°47', in NW¹ sec.28, T.23 N., R.3 W., on right bank 40 ft upstream from bridge on State Highway 26, three-quarters of a mile upstream from Middle Fork, 4 $\frac{1}{4}$ miles upstream from mouth, and 5 miles east of Lafayette.

Drainage area.--246 sq mi.

Records available.--October 1943 to September 1960. 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.--17 years (1943-60), 244 cfs.

Extremes.--1943-60: 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).

Corrections.--In WSP 1305, the reference for revisions for water year 1947 was listed in error; those revisions were published in WSP 1505.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	80.2	267	352	385	649	241	282	198	95.0	376	68.5	39.8	250
1952	40.4	118	215	442	378	564	685	807	407	153	90.2	140	327
1953	49.2	103	242	287	173	580	450	245	141	328	286	35.0	245
1954	30.1	35.6	36.8	66.2	70.8	101	144	125	178	40.7	96.9	25.5	79.2
1955	90.8	55.1	129	391	176	466	253	215	269	208	42.8	34.3	195
1956	112	274	122	60.1	375	201	118	229	191	208	44.6	22.9	162
1957	23.5	27.8	61.0	143	312	187	1,026	576	565	668	91.8	139	317
1958	163	251	784	184	116	163	132	101	1,674	596	510	72.0	396
1959	61.1	515	141	442	918	359	593	244	81.6	48.9	45.5	71.6	272
1960	89.4	106	178	206	380	253	186	194	165	165	149	39.6	175

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.38	1.21	1.65	1.80	2.75	1.13	1.28	0.93	0.42	1.76	0.32	0.18	13.81
1952	.19	.53	1.00	2.07	2.10	2.64	3.11	2.85	1.85	.72	.42	.63	18.11
1953	.23	.46	1.13	1.25	.73	2.72	2.04	1.15	.64	1.54	1.34	.16	13.39
1954	.14	.16	.18	.31	.30	.47	.65	.59	.81	.19	.45	.12	4.37
1955	.43	.25	.60	1.83	.74	2.18	1.15	1.01	1.22	.98	.20	.15	10.74
1956	.52	1.24	.57	.28	1.64	.94	.54	1.07	.87	.98	.21	.10	8.96
1957	.11	.15	.29	.67	1.32	.88	4.65	2.70	2.57	3.14	.43	.65	17.52
1958	.76	1.14	3.68	.86	.49	.76	.60	.47	7.59	2.79	2.39	.33	21.86
1959	.29	1.43	.66	2.08	3.88	1.68	2.69	1.14	.37	.23	.21	.32	14.98
1960	.42	.48	.83	.96	1.66	1.19	.84	.91	.75	.77	.70	.18	9.69

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	473	26.11
1951	1205	*4,250	Feb. 21, 1951	29	250	1.02	13.81	223	12.29
1952	1235	*3,680	May 25, 1952	31	327	1.33	18.11	329	18.21
1953	1275	*5,550	Mar. 4, 1953	27	243	.988	13.39	218	12.05
1954	1335	1,530	Aug. 17, 1954	21	79.2	.322	4.37	93.7	5.17
1955	1385	*3,450	Jan. 6, 1955	20	195	.793	10.74	214	11.79
1956	1435	1,620	July 17, 1956	20	162	.659	8.96	129	7.16
1957	1505	4,250	July 23, 1957	20	317	1.29	17.52	409	22.57
1958	1555	12,600	June 10, 1958	54	396	1.61	21.86	338	18.66
1959	1625	8,400	Feb. 10, 1959	29	272	1.11	14.98	260	14.33
1960	1705	1,620	Aug. 3, 1960	29	175	.711	9.69	-	-

* Revised.

3350. Wildcat Creek near Lafayette, Ind.

Location (revised).--Lat 40°26'26", long 86°49'46", on north half of line between 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 1960.

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.--6 years (1954-60), 820 cfs.

Extremes.--1954-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	544	103	178	67.6	--
1955	288	153	344	1,320	474	1,618	910	526	668	744	127	83.8	607
1956	450	1,053	411	189	1,306	873	374	1,085	810	455	159	68.8	599
1957	70.5	108	192	381	764	648	3,568	1,497	1,417	2,495	302	428	987
1958	479	733	2,465	810	341	467	379	299	6,210	1,851	1,511	240	1,218
1959	152	833	509	1,406	3,169	1,267	2,144	1,071	267	197	192	214	954
1960	263	316	511	709	1,214	771	795	658	438	634	495	132	575

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	0.77	0.14	0.25	0.09	-
1955	0.42	0.22	0.50	1.92	0.62	2.36	1.28	0.77	.94	1.09	.19	.12	10.43
1956	.66	1.48	.60	.28	1.78	1.27	.53	1.58	1.14	.66	.23	.10	10.31
1957	.10	.15	.28	.56	1.01	.94	5.03	2.18	2.00	3.63	.44	.60	16.92
1958	.70	1.03	3.60	.89	.45	.68	.53	.44	7.35	2.70	2.20	.34	20.91
1959	.22	1.17	.74	2.05	4.18	1.84	3.02	1.56	.38	.29	.28	.30	16.03
1960	.38	.45	.74	1.03	1.65	1.12	1.12	.96	.62	.92	.71	.19	9.89

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	1335	2,270	June 6, 1954	-	-	-	-	-	-
1955	1365, 1555	6,500	Jan. 6, 1955	50	607	0.767	10.43	701	12.03
1956	1435	5,280	May 29, 1956	56	599	.757	10.31	471	8.10
1957	1505, 1555	9,110	July 23, 1957	56	987	1.25	16.92	1,266	21.72
1958	1555	25,000	June 10, 1958	143	1,218	1.54	20.91	1,032	17.71
1959	1625	18,400	Feb. 10, 1959	96	934	1.18	16.03	901	15.47
1960	1705	4,700	Feb. 10, 1960	91	575	.727	9.89	-	-

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 1960. 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.--37 years (1923-60), 6,384 cfs.

Extremes.--1901-3, 1923-60: 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.--Flow regulated at low stages by powerplants upstream. Records of water temperatures for the period July 1954 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,895	6,328	12,074	12,421	18,818	11,821	14,595	8,074	4,066	7,472	2,184	1,239	8,435
1952	1,873	3,983	6,379	19,510	14,510	15,640	16,270	11,820	7,776	2,664	2,404	2,153	8,730
1953	1,189	2,010	3,964	5,619	5,617	14,200	8,278	6,480	3,438	3,207	1,987	839	4,740
1954	801	987	1,027	1,570	1,984	3,473	6,780	3,330	4,360	1,695	1,735	1,362	2,419
1955	6,305	2,196	3,583	9,653	5,333	14,670	7,496	3,947	4,265	4,816	1,951	905	5,446
1956	4,495	9,481	3,605	1,694	12,120	10,340	5,292	8,958	6,339	3,116	1,578	984	5,650
1957	788	1,145	1,853	3,442	4,480	4,387	28,000	10,070	7,929	14,820	2,129	2,069	6,744
1958	3,091	4,889	16,630	5,615	3,166	5,605	3,952	3,219	31,830	11,240	9,510	3,145	8,507
1959	2,047	5,106	3,482	10,630	28,000	11,660	17,720	11,490	3,931	2,669	1,431	1,241	8,136
1960	2,437	4,308	5,278	7,673	11,660	6,665	10,460	6,379	5,673	4,259	3,149	1,461	5,755

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.46	0.97	1.92	1.98	2.70	1.88	2.25	1.28	0.63	1.19	0.35	0.19	15.80
1952	.30	.61	1.01	3.10	2.16	2.49	2.50	1.88	1.20	.42	.38	.33	16.38
1953	.19	.31	.63	.89	.81	2.26	1.27	1.03	.53	.51	.32	.13	8.88
1954	.13	.15	.16	.25	.29	.55	1.04	.53	.67	.27	.28	.21	4.53
1955	1.00	.54	.57	1.53	.77	2.33	1.15	.63	.66	.77	.31	.14	10.20
1956	.71	1.46	.57	.30	1.80	1.65	.81	1.43	.98	.50	.25	.15	10.61
1957	.15	.18	1.30	.55	.64	.70	4.31	1.60	1.22	2.35	.34	.32	12.64
1958	.49	.75	2.64	.88	.46	.89	.61	.51	4.90	1.79	1.51	.48	15.92
1959	.33	.79	.55	1.70	4.02	1.88	2.73	1.83	.60	.42	.23	.19	15.25
1960	.39	.66	.84	1.22	1.74	1.06	1.61	1.02	.87	.69	.50	.23	10.82

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	12,840	24.05
1951	1205	-	-	-	-	-	-	7,672	14.37
1952	1235	50,600	Feb. 22, 1951	1,000	8,435	1.16	15.80	8,506	15.59
1953	1275	41,900	Mar. 14, May 26	910	8,730	1.20	16.38	4,374	8.19
1954	1335	35,000	Mar. 6, 1953	730	4,740	.654	8.88	3,202	6.00
1955	1385	16,500	Apr. 13, 1954	472	2,419	.334	4.53	5,895	11.03
		35,300	Mar. 6, 1955	708	5,448	.752	10.20		
1956	1435	30,000	Feb. 27, 1956	699	5,650	.780	10.61	4,505	8.48
1957	1505	52,600	Apr. 8, 1957	654	6,744	.931	12.64	8,503	15.91
1958	1555	99,000	June 14, 1958	888	8,507	1.17	15.92	7,520	13.71
1959	1625	89,000	Feb. 15, 1959	718	8,136	1.12	15.25	6,256	15.47
1960	1705	39,500	Mar. 30, 1960	1,100	5,755	.794	10.82	-	-

3357. Big Pine Creek near Williamsport, Ind.

Location.--Lat 40°19', long 87°17', in SE $\frac{1}{4}$ 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 1960.

Gage.--Wire-weight and crest-stage gages. 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.--5 years (1955-60), 291 cfs.

Extremes.--1955-60: 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	210	288	103	60.8	467	390	160	250	188	101	51.6	16.6	189
1957	10.8	15.6	17.1	62.7	70.6	50.1	652	529	773	1,113	269	44.2	302
1958	102	203	726	270	133	169	151	144	1,187	865	426	56.1	371
1959	37.9	138	140	426	1,182	625	945	422	93.0	31.7	21.5	23.2	334
1960	58.9	205	205	236	515	393	549	184	503	163	69.6	30.1	257

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0.74	0.98	0.38	0.21	1.53	1.37	0.54	0.38	0.64	0.35	0.18	0.06	7.84
1957	.04	.05	.06	.22	.22	.18	2.21	1.86	2.62	3.90	.94	.15	12.45
1958	.36	.69	2.65	.95	.42	.59	.51	.50	4.03	3.03	1.49	.19	15.31
1959	.13	.47	.49	1.49	3.74	2.19	3.20	1.48	.32	.11	.07	.08	13.77
1960	.21	.70	.72	.83	1.69	1.37	1.86	.64	1.71	.57	.24	.10	10.64

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1956	1435	1,800	Mar. 7, 1956	9.2	189	0.574	7.84	143	5.91
1957	1505	9,260	July 13, 1957	7.0	302	.918	12.45	385	15.90
1958	1555	7,580	June 13, 1958	30	371	1.13	15.31	310	12.80
1959	1625	12,600	Feb. 10, 1959	9.4	334	1.02	13.77	347	14.31
1960	1705	3,940	June 23, 1960	22	257	.781	10.64	-	-

3360. Wabash River at Covington, Ind.

Location.--Lat 40°08'24", long 87°24'20", in sec.35, T.20 N., R.3 W., near center of span on downstream side of highway bridge at Covington, 2.9 miles downstream from Oppossum 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 1960. 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. Datum of gage is 473.97 ft above mean sea level, datum of 1929.

Average discharge.--21 years (1939-60), 7,230 cfs.

Extremes.--1939-60: Maximum discharge, 147,000 cfs May 20, 1943 (gage height, 32.44 ft); minimum observed, 487 cfs Sept. 29, 1941, corrected (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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,715	6,929	13,312	14,229	23,303	13,478	16,029	9,447	4,897	9,503	2,703	1,721	9,857
1952	2,380	4,825	7,575	21,090	17,480	17,900	18,480	13,740	11,410	3,384	2,772	2,527	10,270
1953	1,649	2,045	4,195	5,773	5,865	16,160	9,508	7,869	4,316	4,917	2,326	1,041	5,482
1954	928	1,093	1,202	1,739	2,171	3,468	7,433	3,836	5,123	1,847	1,912	1,431	2,674
1955	6,449	2,390	3,580	11,200	5,793	16,030	8,478	5,045	5,718	5,223	2,153	1,074	6,115
1956	4,925	9,848	3,873	2,065	11,960	11,780	5,867	10,160	7,596	3,825	1,836	1,116	6,208
1957	820	942	1,774	4,314	4,874	5,111	28,470	12,610	8,797	17,520	3,092	2,571	7,568
1958	3,750	5,782	18,620	7,353	3,827	6,403	4,790	3,960	36,010	13,460	11,130	3,525	9,906
1959	2,459	5,673	4,298	11,200	54,450	14,130	18,410	15,180	4,539	3,199	1,702	1,603	9,558
1960	2,723	5,188	6,046	8,666	13,850	6,622	13,980	7,406	8,328	5,233	3,858	1,808	6,934

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.52	0.94	1.87	2.00	2.96	1.89	2.18	1.33	0.67	1.33	0.38	0.23	16.30
1952	.33	.66	1.06	2.96	2.30	2.51	2.51	1.93	1.55	.48	.39	.34	17.02
1953	.23	.28	.59	.81	.74	2.27	1.29	1.11	.59	.69	.33	.14	9.07
1954	.13	.15	.17	.24	.27	.49	1.01	.54	.70	.26	.27	.19	4.42
1955	.91	.33	.50	1.57	.74	2.25	1.15	.71	.78	.73	.30	.15	10.12
1956	.69	1.54	.54	.29	1.58	1.66	.80	1.43	1.03	.54	.26	.15	10.31
1957	.12	.13	.25	.61	.62	.72	3.87	1.78	1.19	2.46	.43	.35	12.53
1958	.53	.79	2.62	1.03	.49	.90	.65	.56	4.90	1.89	1.57	.48	16.41
1959	.35	.77	.60	1.57	4.37	1.98	2.50	2.13	.62	.45	.24	.22	15.80
1960	.38	.71	.85	1.22	1.82	.93	1.90	1.04	1.13	.74	.54	.25	11.51

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	15,377	25.44
1951	1205	58,400	Feb. 23, 1951	1,450	9,857	1.20	16.30	9,083	15.02
1952	1235	44,400	Jan. 31, 1952	1,180	10,270	1.25	17.02	9,693	16.07
1953	1275	31,200	Mar. 8, 1953	940	5,482	.668	9.07	5,088	8.42
1954	1335	15,900	Apr. 13, 1954	840	2,674	.326	4.42	3,432	5.71
1955	1365	36,300	Mar. 7, 1955	900	6,115	.745	10.12	6,623	10.95
1956	1435	30,400	Feb. 29, 1956	840	6,208	.756	10.31	4,953	8.24
1957	1505	55,400	Apr. 10, 1957	750	7,568	.922	12.53	9,645	15.97
1958	1555	113,000	June 14, 1958	1,620	9,906	1.21	16.41	8,570	14.19
1959	1625	98,100	Feb. 13, 1959	1,040	8,558	1.16	15.80	9,689	16.02
1960	1705	42,800	Apr. 1, 1960	1,550	6,934	.845	11.51	-	-

3365. Bluegrass Creek at Potomac, Ill.

Location.--Lat 40°19'19", long 87°48'02", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.34, T.22 N., R.13 W., on left bank at downstream side of highway bridge, 1.0 mile north of Potomac and 2.0 miles upstream from mouth.

Drainage area.--34.8 sq mi (revised).

Records available.--October 1949 to September 1960. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 655.37 ft above mean sea level, datum of 1929. Prior to May 4, 1950, wire-weight gage at same site and datum.

Average discharge.--11 years (1949-60), 30.0 cfs.

Extremes.--1949-60: Maximum discharge, 4,380 cfs May 28, 1956 (gage height, 11.43 ft); no flow for many days in 1952-58, 1960.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22.9	18.3	28.0	85.6	156	56.1	55.1	23.7	9.45	148	21.4	4.85	51.7
1952	24.3	52.0	45.4	57.7	42.5	77.1	87.8	50.1	74.3	11.7	.829	.23	43.6
1953	.23	.34	.25	5.34	8.12	78.1	45.4	18.4	3.33	33.5	.65	0	16.3
1954	.11	.13	.49	.56	.71	4.67	34.3	10.6	8.65	1.79	2.78	.03	5.38
1955	.55	.25	.59	26.1	20.7	33.0	24.2	15.2	34.0	12.7	1.63	.04	14.0
1956	9.52	14.6	2.84	.93	40.4	12.8	5.95	91.8	66.7	74.0	29.6	.42	29.1
1957	.09	.36	.60	7.57	26.5	13.7	117	70.6	50.6	28.0	1.50	.54	26.2
1958	2.03	12.6	71.3	20.3	5.88	13.1	14.6	15.2	94.1	75.0	31.2	6.09	30.3
1959	1.51	21.9	8.78	34.1	136	67.7	67.7	19.0	2.88	.98	.33	.83	29.3
1960	5.72	25.2	25.9	24.0	60.5	48.8	36.7	15.8	82.4	15.7	.75	.12	28.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.76	0.59	0.93	2.77	4.66	1.86	1.77	0.79	0.30	4.90	0.71	0.16	20.20
1952	.80	1.67	1.51	1.91	1.32	2.55	2.82	1.66	2.39	.39	.03	.007	17.05
1953	.008	.01	.008	.18	.24	2.59	1.46	.61	.11	1.11	.02	0	6.35
1954	.004	.004	.02	.02	.02	.15	1.10	.35	.28	.06	.09	.0009	2.10
1955	.02	.008	.02	.87	.62	1.09	.78	.50	1.09	.42	.05	.001	5.47
1956	.32	.47	.09	.03	1.25	.43	.19	3.04	2.14	2.45	.98	.01	11.40
1957	.003	.01	.02	.25	.79	.45	3.74	2.34	1.62	.93	.05	.02	10.22
1958	.07	.40	2.36	.68	.18	.43	.47	.50	3.02	2.48	1.03	.20	11.82
1959	.04	.70	.29	1.13	4.06	2.24	2.17	.63	.09	.05	.01	.03	11.42
1960	.19	.81	.86	.80	1.87	1.62	1.18	.52	2.64	.52	.02	.004	11.03

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	52.1	20.37
1951	1205	3,540	July 9, 1951	0	1.2	51.7	1.49	20.20	56.1
1952	1235	1,980	June 14, 1952	0		43.6	1.25	17.05	33.5
1953	1275	1,350	Mar. 14, 1953	0		16.3	.468	6.35	16.2
1954	1335	578	Apr. 11, 1954	0		5.38	.155	2.10	5.44
1955	1385	754	June 11, 1955	0		14.0	.402	5.47	16.2
1956	1435	4,380	May 28, 1956	0		29.1	.836	11.40	27.0
1957	1505	1,020	Apr. 28, 1957	0		26.2	.753	10.22	33.4
1958	1555	1,570	June 13, 1958	0		30.3	.871	11.82	25.7
1959	1625	3,700	Feb. 10, 1959	.1		29.3	.842	11.42	31.4
1960	1705	1,840	June 23, 1960	0		28.2	.810	11.03	-

3369. Salt Fork near St. Joseph, Ill.

Location.--Lat 40°08'55", long 88°02'00", in NW¼SE¼ sec.35, T.20 N., R.10 E., on right bank at downstream side of township highway bridge, a quarter of a mile downstream from Spoon River and 2.5 miles north of St. Joseph.

Drainage area.--134 sq mi.

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 650.16 ft above mean sea level, datum of 1929.

Extremes.--1958-60: Maximum discharge, 6,030 cfs Feb. 10, 1959 (gage height, 18.99 ft); minimum, 4.3 cfs Sept. 20, 1959.

Remarks.--Records of water temperatures are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	12.7	65.3	49.9	123	539	235	158	140	51.9	13.2	8.50	10.1	114
1960	21.7	36.5	36.7	62.0	162	153	163	83.7	237	93.7	17.0	12.5	89.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	0.11	0.54	0.43	1.06	4.19	2.02	1.31	1.20	0.43	0.11	0.07	0.08	11.55
1960	.19	.30	.32	.53	1.31	1.32	1.35	.72	1.97	.81	.15	.10	9.07

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1959	1625	6,030	Feb. 10, 1959	4.3	114	0.851	11.55	111	11.28
1960	1705	11,800	June 23, 1960	7.2	89.2	.666	9.07	-	-

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WABASH RIVER BASIN

3370. Boneyard Creek at Urbana, Ill.

Location.--Lat 40°06'40", long 88°13'35", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.18, T.19 N., R.9 E., on right bank at downstream side of footbridge at rear of fire station on University of Illinois campus in Urbana, $1\frac{1}{4}$ miles upstream from mouth.

Drainage area.--4.70 sq mi (revised).

Records available.--July 1948 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 708.25 ft above mean sea level, datum of 1929.

Average discharge.--12 years (1948-60), 4.58 cfs.

Extremes.--1948-60: Maximum discharge, 561 cfs Oct. 6, 1955 (gage height, 7.68 ft); maximum gage height, 7.87 ft July 17, 1950; minimum discharge, 0.2 cfs Oct. 11, 12, Nov. 12, 1957, Aug. 9-13, 1959.

Remarks.--Diurnal fluctuation at low flow caused by industrial plants upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2.68	3.05	2.49	5.46	9.94	7.99	8.13	3.75	4.93	5.84	4.36	2.32	5.04
1952	3.20	3.65	3.72	4.47	4.49	7.48	8.39	7.47	9.25	2.92	3.22	2.39	5.05
1953	1.85	2.88	2.34	2.94	2.90	10.0	4.91	3.36	4.77	5.11	2.54	1.77	3.79
1954	2.03	1.41	1.64	2.48	2.27	2.21	5.05	3.35	5.37	3.95	4.61	1.58	3.00
1955	4.17	1.15	2.57	3.64	3.38	4.31	4.63	3.86	5.04	5.83	4.10	3.73	3.87
1956	10.8	4.03	1.89	1.45	4.50	2.54	3.06	3.25	3.22	5.77	4.90	1.91	3.95
1957	1.35	1.97	2.50	2.03	2.90	2.75	12.0	6.56	8.46	8.65	6.31	3.68	4.93
1958	2.79	2.17	4.78	2.84	2.44	2.18	4.75	6.74	11.8	12.8	7.92	2.85	5.36
1959	1.63	4.71	1.55	3.23	9.38	5.29	4.74	10.6	3.30	1.71	1.31	1.87	4.07
1960	2.92	2.64	2.62	3.12	3.94	2.33	4.92	5.99	8.52	5.20	2.75	2.59	3.95

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.66	0.72	0.61	1.34	2.20	1.96	1.93	0.92	1.17	1.43	1.07	0.55	14.56
1952	.78	.87	.91	1.10	1.03	1.84	1.99	1.83	2.20	.72	.79	.57	14.63
1953	.45	.68	.57	.72	.64	2.45	1.17	.83	1.13	1.25	.62	.42	10.93
1954	.50	.33	.40	.61	.50	.54	1.20	.82	1.27	.97	1.13	.37	8.64
1955	1.02	.27	.63	.89	.75	1.06	1.10	.95	1.20	1.43	1.00	.89	11.19
1956	2.65	.96	.46	.36	1.03	.62	.73	.80	.77	1.42	1.20	.45	11.45
1957	.33	.47	.61	.50	.64	.67	2.85	1.61	2.01	2.12	1.55	.87	14.23
1958	.68	.52	1.17	.70	.54	.53	1.13	1.65	2.79	3.15	1.94	.68	15.46
1959	.40	1.12	.39	.79	2.08	1.30	1.13	2.60	.78	.42	.32	.44	11.76
1960	.72	.63	.64	.77	.90	.57	1.17	1.47	2.02	1.27	.68	.62	11.46

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	6.08	17.56
1951	1205	440	July 9, 1951	1.1	5.04	1.07	14.56	5.24	15.13
1952	1235	404	June 13, 1952	1.0	5.05	1.07	14.63	4.75	13.77
1953	1275	422	Mar. 14, 1953	.8	3.79	.806	10.93	3.62	10.46
1954	1335	255	Apr. 10, 1954	.8	3.00	.638	8.64	3.24	9.33
1955	1385	355	Oct. 10, 1954	.8	3.87	.623	11.19	4.62	13.34
1956	1435	561	Oct. 6, 1955	.8	3.95	.840	11.45	3.03	8.79
1957	1505	454	July 13, 1957	.8	4.93	1.05	14.23	5.26	15.19
1958	1555	414	May 4, 1958	.4	5.36	1.14	15.48	5.20	15.01
1959	1625	440	May 20, 1959	.4	4.07	.866	11.76	4.10	11.85
1960	1705	358	June 23, 1960	.5	3.95	.840	11.46	-	-

3375. Saline Branch at Urbana, Ill.
(Formerly published as West Branch Salt Fork at Urbana)

Location--Lat 40°07'12", long 88°11'41", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9, T.19 N., R.9 E., on right bank at Champaign-Urbana sewage-disposal plant, 0.3 mile downstream from Boneyard Creek, 0.5 mile downstream from U.S. Highway 45, and 1 mile east of Urbana.

Drainage area--68.1 sq mi (revised).

Records available--July 1936 to September 1958 (published as West Branch Salt Fork at Urbana). Water years 1959-60 (annual maximum).

Gage--Crest-stage gage. Datum of gage is 687.02 ft above mean sea level, datum of 1929. Prior to July 8, 1941, water-stage recorder and concrete control at datum 1.00 ft higher. July 8, 1941, to Sept. 30, 1958, water-stage recorder and concrete control at present site and datum.

Average discharge--22 years (1936-58), 51.5 cfs.

Extremes--1936-60: Maximum discharge, 3,410 cfs Mar. 12, 1939 (gage height, 12.84 ft). 1936-58: Minimum discharge, 1.19 cfs Aug. 19, Oct. 20, 1936, Oct. 8, 1938. Maximum stage known, 13.5 ft May 11, 1933, from floodmarks.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	30.7	26.4	32.1	116	181	120	143	55.8	40.5	84.2	27.6	13.9	72.0
1952	21.2	68.7	46.9	102	82.1	131	134	105	103	22.2	8.79	5.46	69.1
1953	4.96	6.54	5.74	7.76	8.94	84.5	104	21.9	13.6	50.3	6.25	3.99	26.6
1954	4.40	3.79	4.36	6.62	5.48	5.68	31.0	9.87	29.3	8.44	8.57	3.58	10.0
1955	8.24	3.90	5.05	17.2	27.5	44.1	49.2	28.6	57.1	21.7	8.30	7.44	23.1
1956	42.2	32.0	14.0	8.49	55.8	30.5	21.3	46.6	36.7	31.8	19.5	5.71	28.6
1957	4.19	5.68	6.94	10.5	42.5	23.3	170	108	94.5	108	15.3	5.64	49.3
1958	8.87	20.4	95.4	61.6	21.2	26.3	32.0	40.0	138	206	221	14.6	74.5
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.52	0.43	0.54	1.96	2.77	2.04	2.35	0.94	0.66	1.43	0.47	0.23	14.34
1952	.36	1.13	.79	1.72	1.50	2.22	2.20	1.78	1.69	.38	.15	.09	13.81
1953	.08	.11	.10	.13	.14	1.43	1.70	.37	.22	.85	.11	.07	5.31
1954	.07	.06	.07	.11	.08	.10	.51	.17	.48	.14	.15	.06	2.00
1955	.14	.06	.09	.29	.42	.75	.81	.48	.94	.37	.14	.12	4.61
1956	.71	.52	.24	.14	.88	.52	.35	.79	.60	.54	.33	.09	5.71
1957	.07	.09	.12	.18	.65	.39	2.79	1.83	1.55	1.83	.23	.09	9.82
1958	.15	.33	1.62	1.04	.32	.44	.52	.68	2.27	3.49	3.74	.24	14.84
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	77.0	15.33
1951	1205	1,530	Feb. 21, 1951	6.8	72.0	1.06	14.54	75.9	15.13
1952	1235	504	June 13, 1952	3.0	69.1	1.01	13.61	59.2	11.82
1953	1275	946	Apr. 1, 1953	2.8	26.6	.391	5.31	26.2	5.22
1954	1355	261	Jan. 20, 1954	2.0	10.0	.147	2.00	10.4	2.09
1955	1365	400	Oct. 10, 1954	2.3	23.1	.339	4.61	29.0	5.79
1956	1435	993	Oct. 6, 1955	3.1	28.6	.420	5.71	22.6	4.52
1957	1505	898	June 28, July 13	3.2	49.3	.724	9.82	58.4	11.64
1958	1555	1,790	Aug. 2, 1958	3.1	74.5	1.09	14.84	-	-
1959	-	2,770	Feb. 10, 1959	-	-	-	-	-	-
1960	-	2,210	June 23, 1960	-	-	-	-	-	-

3380. Salt Fork near Homer, Ill.
(Previously published as Salt Fork Vermilion River near Homer)

Location.--Lat 40°03'20", long 87°57'30", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.33, T.19 N., R.14 W., on right bank at downstream side of bridge on State Highway 49, 1.1 miles north of Homer.

Drainage area.--340 sq mi (revised).

Records available.--October 1944 to September 1958 (published as Salt Fork Vermilion River near Homer). Water years 1959-60 (annual maximum).

Gage.--Crest-stage gage. Datum of gage is 621.00 ft above mean sea level, datum of 1929. Prior to Mar. 1, 1946, wire-weight gage and Apr. 1, 1946, to Sept. 30, 1958, water-stage recorder at same site and datum.

Average discharge.--14 years (1944-58), 251 cfs.

Extremes.--1944-60: Maximum discharge, 7,910 cfs Feb. 11, 1959 (gage height, 14.75 ft).

1944-58: Minimum discharge, 3.0 cfs Nov. 29, 30, 1956.

Maximum stage known, 18.6 ft, probably in March 1939, from mark set by employees of Illinois Division of Highways.

Revisions.--The momentary maximum discharge for the water year 1950, published in WSP 1305, has been revised to 7,210 cfs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	160	149	227	591	1,108	530	609	302	197	515	94.5	55.8	374
1952	64.8	321	272	649	508	704	686	467	520	109	30.1	26.9	362
1953	22.2	27.2	29.8	70.1	77.7	531	594	152	87.1	256	25.4	15.1	158
1954	22.8	17.6	17.3	23.2	26.2	24.3	159	48.1	90.7	25.1	24.8	12.5	40.8
1955	25.5	13.5	16.2	72.8	82.2	212	195	122	204	97.4	22.8	13.9	89.6
1956	170	195	85.3	41.2	272	162	96.3	316	252	221	108	17.0	161
1957	19.7	17.0	22.5	77.0	187	132	748	489	386	374	60.6	23.7	211
1958	35.7	99.3	524	281	126	147	185	219	813	901	812	88.4	355
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.54	0.49	0.77	2.00	3.39	1.80	2.00	1.02	0.65	1.75	0.32	0.18	14.91
1952	.22	1.05	.92	2.20	1.61	2.39	2.25	1.58	1.71	.37	.10	.09	14.49
1953	.08	.09	.10	.24	.24	1.80	1.95	.52	.29	.87	.09	.05	6.32
1954	.08	.06	.06	.08	.08	.08	.52	.16	.30	.08	.08	.04	1.62
1955	.09	.04	.05	.25	.25	.72	.64	.41	.67	.33	.08	.05	3.58
1956	.58	.64	.28	.14	.86	.55	.32	1.07	.83	.75	.37	.06	6.45
1957	.07	.06	.08	.26	.57	.45	2.46	1.66	1.27	1.27	.21	.08	8.44
1958	.12	.33	1.78	.95	.39	.50	.61	.74	2.67	3.05	2.75	.29	14.18
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	459	18.33
1951	1205	5,120	Feb. 22, 1951	28	374	1.10	14.91	384	15.30
1952	1235	2,370	June 23, 1952	17	362	1.06	14.49	314	12.57
1953	1275	3,140	Apr. 2, 1953	11	158	.465	6.32	156	6.25
1954	1355	920	Apr. 12, 1954	7.8	40.8	.120	1.62	40.6	1.60
1955	1385	740	Mar. 1, 1955	4.5	89.6	.264	3.58	123	4.90
1956	1435	3,020	May 29, 1956	8.3	161	.474	6.45	128	5.16
1957	1505	2,570	Apr. 29, 1957	7.2	211	.621	8.44	261	10.46
1958	1555	5,120	July 12, 1958	16	355	1.04	14.18	-	-
1959	-	7,910	Feb. 11, 1959	-	-	-	-	-	-
1960	-	5,380	June 24, 1960	-	-	-	-	-	-

3385. Vermilion River near Catlin, Ill.

Location.--Lat 40°06'09", long 87°42'58", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.16, T.19 N., R.12 W., on right bank 75 ft upstream from Butler Branch Bridge, 150 ft upstream from Butler Branch, 0.1 mile downstream from Salt Fork, and 2 $\frac{1}{2}$ miles northwest of Catlin.

Drainage area.--959 sq mi.

Records available.--October 1939 to September 1958. Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 527.02 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Average discharge.--19 years (1939-58), 704 cfs.

Extremes.--1939-58: Maximum discharge, 36,000 cfs May 18, 1943 (gage height, 23.35 ft), from rating curve extended above 12,000 cfs on basis of slope-area measurement of peak flow; minimum, 8.0 cfs Sept. 30, 1953.

Maximum stage known since 1903, 24.4 ft in March 1939, from floodmarks.

Remarks.--Records of water temperatures for the period December 1952 to September 1958 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	396	442	639	1,508	2,944	1,397	1,557	778	561	2,186	286	151	1,059
1952	288	956	654	1,559	1,160	1,714	1,796	1,200	1,477	248	66.2	40.5	927
1953	36.2	51.5	55.5	134	196	1,431	1,253	331	152	655	52.2	17.0	365
1954	24.3	30.6	33.4	46.9	48.9	84.2	574	138	158	43.1	47.6	13.0	103
1955	38.6	20.2	25.5	322	307	638	579	442	732	238	42.5	34.3	284
1956	376	572	200	101	883	523	272	1,497	1,193	1,046	515	39.5	601
1957	30.1	30.1	68.2	192	560	360	2,661	1,985	1,124	1,071	141	74.4	689
1958	112	303	1,754	715	301	401	509	549	2,368	2,233	1,750	217	939
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.48	0.51	0.77	1.81	3.20	1.68	1.81	0.93	0.65	2.63	0.34	0.18	14.99
1952	.35	1.11	.79	1.87	1.30	2.06	2.09	1.44	1.72	.30	.08	.05	13.16
1953	.04	.06	.07	.16	.21	1.72	1.46	.40	.18	.79	.06	.02	5.17
1954	.03	.04	.04	.06	.05	.10	.67	.17	.18	.05	.06	.02	1.47
1955	.05	.02	.03	.39	.33	.77	.67	.53	.85	.29	.05	.04	4.02
1956	.45	.67	.24	.12	.99	.63	.32	1.80	1.39	1.26	.62	.05	8.54
1957	.04	.04	.08	.23	.61	.43	3.10	2.39	1.51	1.29	.17	.09	9.78
1958	.13	.35	2.08	.86	.53	.48	.59	.66	2.75	2.69	2.10	.25	13.26
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,342	19.00
1951	1205	15,900	Feb. 21, 1951	77	1,059	1.10	14.99	1,094	15.48
1952	1235	5,980	June 15, 1952	24	927	.967	13.16	781	11.08
1953	1275	5,720	Apr. 1, 1953	10	365	.381	5.17	360	5.11
1954	1335	2,520	Apr. 12, 1954	9.3	103	.107	1.47	103	1.46
1955	1385	2,750	June 12, 1955	11	284	.296	4.02	373	5.28
1956	1435	13,200	May 29, 1956	28	601	.627	8.54	516	7.34
1957	1505	7,820	Apr. 29, 1957	14	689	.718	9.78	860	12.18
1958	1555	11,300	July 12, 1958	24	939	.979	13.26	-	-
1959	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-

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.--1,280 sq mi, approximately.

Records available.--October 1914 to September 1921, June 1928 to September 1960. 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.--39 years (1914-21, 1928-60), 895 cfs.

Extremes.--1914-21, 1928-60: 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.--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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	622	626	929	2,291	4,538	1,999	2,194	1,121	829	2,977	380	185	1,540
1952	332	1,203	870	2,100	1,567	2,331	2,602	1,819	2,635	393	108	70.0	1,331
1953	52.5	71.8	130	213	295	1,919	1,703	573	265	1,378	76.0	35.6	562
1954	31.7	38.0	40.4	57.2	64.2	123	773	181	229	49.0	60.5	27.5	139
1955	45.4	33.8	44.6	470	398	893	771	602	958	293	79.6	50.1	386
1956	594	804	241	128	1,223	771	345	1,934	1,364	1,321	599	69.9	782
1957	43.8	52.6	105	238	681	463	3,315	2,669	1,601	1,684	250	115	933
1958	194	508	2,622	1,026	362	507	596	677	3,363	3,066	2,168	283	1,290
1959	105	502	292	697	4,328	2,166	1,765	1,176	335	76.0	46.4	59.5	938
1960	159	506	504	585	1,501	1,244	1,512	704	*2,367	*750	134	90.7	*831

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.56	0.55	0.84	2.06	3.69	1.80	1.91	1.01	0.72	2.68	0.34	0.16	16.32
1952	.30	1.05	.78	1.89	1.32	2.10	2.27	1.64	2.30	.35	.10	.06	14.16
1953	.05	.06	.12	.19	.24	1.73	1.48	.52	.23	1.24	.07	.03	5.96
1954	.03	.03	.04	.05	.05	.11	.67	.16	.20	.04	.05	.02	1.45
1955	.04	.03	.04	.42	.32	.80	.67	.54	.83	.26	.07	.04	4.06
1956	.53	.70	.22	.11	1.03	.69	.30	1.74	1.19	1.19	.54	.06	8.30
1957	.04	.05	.09	.21	.55	.42	2.89	2.40	1.40	1.52	.23	.10	9.90
1958	.17	.44	2.36	.92	.29	.46	.52	.61	2.93	2.76	1.95	.25	13.66
1959	.09	.44	.26	.63	5.52	1.95	1.54	1.06	.29	.07	.04	.05	9.94
1960	.14	.44	.45	.53	1.26	1.12	1.32	.63	*2.06	*.68	.12	.06	*8.83

* Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	1,833	19.44	
1951	1205	22,800	Feb. 22, 1951	96	1,540	1.20	16.32	1,555	16.50	
1952	1235	18,600	June 15, 1952	21	1,331	1.04	14.16	1,152	12.26	
1953	1275	11,600	July 6, 1953	21	562	.439	5.96	550	5.83	
1954	1335	3,530	Apr. 11, 1954	14	139	.109	1.45	140	1.46	
1955	1385	3,610	June 11, 1955	12	366	.302	4.06	512	5.40	
1956	1435	16,600	May 29, 1956	41	782	.611	8.30	662	7.03	
1957	1505	9,460	Apr. 30, 1957	37	933	.729	9.90	1,197	12.69	
1958	1555	15,300	Dec. 20, 1957	41	1,290	1.01	13.66	1,084	11.48	
1959	1625	37,500	Feb. 11, 1959	23	938	.733	9.94	961	10.18	
1960	1705	15,800	June 24, 1960	49	*831	*.649	*8.83	-	-	

* Revised.

3395. Sugar Creek at Crawfordsville, Ind.

Location.--Lat 40°02'56", long 86°53'58", in NW¹ 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 1960.

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

Average discharge.--22 years (1938-60), 479 cfs.

Extremes.--1938-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	151	688	890	977	1,795	518	640	542	174	517	55.2	29.0	574
1952	31.3	121	434	1,098	981	1,155	1,202	749	1,041	204	77.9	432	625
1953	72.9	192	512	547	332	1,461	435	712	190	485	158	21.8	430
1954	18.9	26.6	51.2	88.7	101	201	511	364	325	40.4	23.5	5.93	144
1955	79.9	48.4	150	836	446	851	661	338	447	267	40.1	44.2	350
1956	217	670	238	91.6	1,278	511	286	1,772	857	351	60.9	27.1	527
1957	24.9	43.5	248	431	682	327	2,142	1,239	2,648	812	184	293	751
1958	323	653	1,924	400	182	337	246	387	2,220	943	1,801	196	806
1959	97.2	932	291	1,098	1,724	798	905	387	170	46.3	33.4	29.6	533
1960	81.8	147	280	374	874	521	385	271	539	378	131	41.5	333

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.34	1.51	2.02	2.21	3.67	1.17	1.40	1.23	0.38	1.17	0.13	0.06	15.29
1952	.07	.27	.98	2.49	2.08	2.62	2.64	1.70	2.28	1.46	.18	.95	16.72
1953	.17	.42	1.16	1.24	.68	3.31	.95	1.61	.42	1.10	.36	.05	11.47
1954	.04	.06	.07	.20	.21	.46	1.12	.82	.71	.09	.05	.01	3.84
1955	.18	.11	.34	1.89	.91	1.68	1.50	.77	.98	.61	.09	.10	9.36
1956	.49	1.47	.54	.21	2.71	1.15	.83	4.01	1.87	.80	.14	.06	14.08
1957	.06	.09	.56	.98	1.40	.74	4.70	2.80	5.80	1.84	.42	.64	20.03
1958	.73	1.43	4.36	.91	.37	.76	.54	.88	4.86	2.13	4.08	.43	21.48
1959	.22	2.04	.66	2.49	3.53	1.61	1.99	.88	.37	.10	.08	.06	14.23
1960	.19	.32	.63	.85	1.86	1.18	.84	.61	1.18	.86	.30	.09	8.91

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,133	30.23
1951	1205	9,470	Feb. 21, 1951	19	574	1.13	15.29	478	12.74
1952	1235	7,860	Apr. 13, 1952	19	825	1.23	16.72	640	17.15
1953	1275	7,860	Mar. 4, 1953	12	430	.845	11.47	371	9.69
1954	1335	2,730	May 2, 1954	3.1	144	.263	3.84	161	4.30
1955	1385	6,480	Jan. 6, 1955	6.5	350	.688	9.36	421	11.23
1956	1435	18,200	May 28, 1956	16	527	1.04	14.08	460	12.29
1957	1505	26,300	June 28, 1957	16	751	1.48	20.03	969	25.84
1958	1555	15,100	Aug. 3, 1958	56	806	1.58	21.48	671	17.88
1959	1625	14,600	Feb. 10, 1959	12	533	1.05	14.23	466	12.45
1960	1705	7,300	June 23, 1960	20	333	.654	8.91	-	-

3400. Sugar Creek near Byron, Ind.

Location.--Lat 39°55'52", long 87°07'33", in SW $\frac{1}{4}$ sec.8, T.17 N., R.6 W., on right bank, 30 ft upstream from highway bridge, 2 $\frac{1}{2}$ miles northwest of Byron, and 5 miles downstream from Indian Creek.

Drainage area.--668 sq mi.

Records available.--October 1940 to September 1960.

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.--20 years (1940-60), 656 cfs.

Extremes.--1940-60: 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	269	986	1,143	1,296	2,220	755	872	744	283	744	110	65.8	782
1952	70.9	191	581	1,415	1,184	1,407	1,515	770	1,283	288	123	489	773
1953	108	237	654	699	464	2,026	618	898	274	668	189	58.1	577
1954	41.5	48.9	51.7	128	119	233	664	492	401	58.4	57.1	18.9	193
1955	121	70.4	183	966	565	978	801	477	595	333	61.1	103	437
1956	313	874	327	132	1,627	659	402	2,191	1,119	512	90.0	50.0	687
1957	51.6	78.0	345	572	861	458	2,597	1,596	3,349	1,058	263	444	967
1958	450	840	2,522	564	258	445	338	549	2,559	1,414	2,250	324	1,049
1959	132	1,251	391	1,474	2,356	1,187	1,193	525	317	84.5	81.9	68.4	741
1960	142	218	401	519	1,147	673	550	425	873	490	295	78.6	481

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.46	1.65	1.97	2.24	3.48	1.30	1.46	1.28	0.47	1.28	0.19	0.11	15.87
1952	.12	.32	1.00	2.44	1.91	2.43	2.53	1.33	2.14	.50	.21	.82	15.75
1953	.19	.40	1.13	1.21	.72	3.50	1.03	1.55	.46	1.15	.33	.06	11.73
1954	.07	.08	.09	.22	.19	.40	1.11	.85	.67	.10	.10	.03	3.91
1955	.21	.12	.32	1.67	.88	1.68	1.34	.82	.99	.58	.11	.17	8.89
1956	.54	1.46	.56	.23	2.63	1.14	.67	3.78	1.87	.88	.16	.08	14.00
1957	.09	.13	.60	.99	1.34	.79	4.34	2.76	5.59	1.82	.45	.74	19.64
1958	.78	1.41	4.36	.97	.40	.77	.56	.95	4.27	2.44	3.88	.54	21.33
1959	.23	2.05	.67	2.55	3.68	2.05	2.00	.91	.53	.15	.14	.11	15.07
1960	.25	.36	.69	.90	1.86	1.16	.92	.73	1.46	.85	.51	.13	9.82

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,493	30.33
1951	1205	13,100	Feb. 21, 1951	57	782	1.17	15.87	652	13.23
1952	1235	10,900	Apr. 13, 1952	50	773	1.16	15.75	786	16.03
1953	1275	11,900	Mar. 4, 1953	32	577	.864	11.73	504	10.25
1954	1335	4,630	May 2, 1954	16	193	.289	3.91	212	4.32
1955	1385	7,240	Jan. 6, 1955	20	437	.654	8.89	532	10.80
1956	1435	20,600	May 29, 1956	38	687	1.03	14.00	601	12.26
1957	1505	32,200	June 28, 1957	38	967	1.45	19.64	1,248	25.37
1958	1555	15,000	Aug. 3, 1958	125	1,049	1.57	21.35	874	17.73
1959	1625	18,500	Feb. 10, 1959	40	741	1.11	15.07	659	13.42
1960	1705	12,700	June 23, 1960	42	481	.720	9.82	-	-

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 1960 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.--33 years (1927-60), 9,483 cfs.

Extremes.--1927-60: Maximum discharge, 184,000 cfs May 20, 1943 (gage height, 32.83 ft); minimum observed, 560 cfs Sept. 24, 1941 (revised); 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6,001	10,177	16,255	19,135	31,704	18,874	20,823	13,030	7,093	15,098	3,904	2,564	13,613
1952	3,077	6,770	8,306	24,600	23,150	23,370	24,420	16,830	17,520	4,871	3,442	3,240	13,300
1953	2,039	2,480	5,204	7,249	7,095	22,480	13,560	9,811	5,238	7,842	2,913	1,228	7,281
1954	1,119	1,381	1,387	1,730	2,510	3,994	9,186	4,694	5,774	2,092	2,072	1,581	3,117
1955	6,525	2,657	3,612	12,400	6,340	18,320	11,110	6,794	8,542	6,168	2,420	1,210	7,196
1956	5,833	12,310	4,515	2,341	14,040	13,660	7,055	13,060	11,230	6,134	2,880	1,430	7,839
1957	1,076	1,368	2,491	4,524	6,625	6,370	35,940	20,170	18,210	23,450	4,429	3,434	10,660
1958	4,587	7,869	25,680	10,360	4,939	7,855	8,501	5,942	42,730	22,040	18,840	4,944	13,570
1959	3,087	8,295	5,272	11,050	40,610	18,520	19,680	20,640	5,481	3,516	2,209	1,834	11,480
1960	3,734	6,552	7,462	10,640	18,180	8,696	17,930	9,426	13,810	7,632	4,715	2,300	9,199

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.62	1.02	1.69	1.99	2.97	1.96	2.09	1.35	0.71	1.57	0.41	0.26	16.64
1952	.32	.68	.92	2.55	2.25	2.43	2.45	1.75	1.76	.51	.36	.33	16.31
1953	.21	.25	.54	.75	.67	2.34	1.36	1.02	.53	.81	.30	.12	8.90
1954	.18	.14	.14	.18	.24	.42	.92	.49	.58	.22	.22	.16	3.83
1955	.68	.27	.37	1.29	.60	1.90	1.12	.71	.86	.64	.25	.12	8.81
1956	.61	1.24	.47	.24	1.36	1.42	.71	1.36	1.13	.64	.30	.14	9.62
1957	.12	.14	.26	.47	.62	.66	3.62	2.10	1.83	2.43	.46	.34	13.05
1958	.48	.79	2.66	1.08	.46	.82	.65	.62	4.30	2.29	1.96	.50	16.61
1959	.32	.83	.55	1.15	3.81	1.92	1.98	2.14	.55	.37	.23	.18	14.03
1960	.39	.66	.77	1.11	1.77	.90	1.81	.98	1.38	.79	.49	.23	11.28

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	-	20,767	25.41
1951	1205	89,000	Feb. 22, 1951	2,130	13,613	1.23	16.64	12,460	15.23		
1952	1235	43,500	June 6, 1952	1,850	13,300	1.20	16.31	12,550	15.39		
1953	1275	37,800	Mar. 19, 1953	1,070	7,281	.656	8.90	6,789	8.31		
1954	1335,1505	18,800	Apr. 14, 1954	718	3,117	.281	3.83	3,870	4.75		
1955	1385	30,500	Mar. 8, 1955	822	7,196	.648	8.81	8,008	9.81		
1956	1435	37,600	May 30, 1956	1,020	7,839	.706	9.62	6,367	7.82		
1957	1505	77,100	June 29, 1957	1,020	10,660	.960	13.05	13,460	16.46		
1958	1555	132,000	June 15, 1958	1,910	13,570	1.22	16.61	11,750	14.15		
1959	1625	105,000	Feb. 14, 1959	1,330	11,480	1.03	14.03	11,570	14.38		
1960	1705	56,600	June 24, 1960	1,790	9,199	.829	11.28	-	-		

WABASH RIVER BASIN

3408. Raccoon Creek near Fincastle, Ind.

Location.--Lat 39°48'45", long 86°57'14", in SW $\frac{1}{4}$ 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 1960.

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

Extremes.--1957-60: Maximum discharge, 7,780 cfs Jan. 21, 1959 (gage height, 13.30 ft); minimum, 4.0 cfs Sept. 14-17, 22, 23, 1959 (gage height, 1.55 ft).
Maximum stage known, 19.10 ft June 28, 1957, from floodmark (discharge, 39,900 cfs, from slope-area measurement).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	-	76.1	16.2	-
1958	50.3	186	514	104	45.6	68.2	66.2	152	*308	282	250	66.6	*176
1959	32.4	177	74.0	339	407	216	193	121	54.0	17.0	33.9	5.60	137
1960	20.3	48.9	95.4	154	278	146	96.7	79.9	202	89.0	14.2	8.70	102

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	-	0.67	0.14	-
1958	0.44	1.57	4.48	0.91	0.36	0.60	0.56	1.33	*2.60	2.47	2.18	.56	*18.06
1959	.28	1.50	.65	2.96	3.21	1.89	1.63	1.06	.46	.15	.30	.05	14.14
1960	.18	.41	.83	1.35	2.28	1.28	.82	.70	1.71	.78	.12	.07	10.53

* Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1957	1625	-	-	-	-	-	-	-	-	-
1958	1625	5,320	Dec. 20, 1957	9.2	*176	*1.33	*18.06	*136	*14.00	
1959	1625	7,780	Jan. 21, 1959	4.0	137	1.04	14.14	128	13.13	
1960	1705	3,780	June 23, 1960	6.2	102	.773	10.53	-	-	

* Revised.

Note.--Daily discharges in water year 1958 have been revised as follows: June 10, 530 cfs; June 11, 3,070 cfs; June 12, 975 cfs.

3409. Raccoon Creek at Ferndale, Ind.

Location.--Lat 39°41'44", long 87°05'01", in SW $\frac{1}{4}$ 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 flood-control dam.

Drainage area.--215 sq mi.

Records available.--October 1956 to September 1960.

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

Extremes.--1956-60: 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	7.77	25.8	165	215	286	150	866	763	1,636	353	118	32.5	383
1958	78.7	278	854	193	85.2	118	113	248	517	467	403	128	292
1959	54.7	273	121	355	622	390	322	203	115	32.4	63.7	11.0	211
1960	43.0	90.6	154	274	492	221	176	151	434	138	28.8	13.0	183

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	0.04	0.13	0.88	1.15	1.38	0.80	4.50	4.09	8.49	1.89	0.63	0.17	24.15
1958	.42	1.44	4.58	1.04	.41	.63	.59	1.33	2.68	2.50	2.16	.66	18.44
1959	.29	1.42	.65	1.90	3.01	2.09	1.67	1.09	.60	.17	.34	.06	13.29
1960	.23	.47	.83	1.46	2.47	1.19	.91	.81	2.25	.74	.15	.07	11.58

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1957	1505	40,500	June 28, 1957	2.7	383	1.78	24.15	468	29.58	
1958	1555	6,640	Dec. 20, 1957	17	292	1.36	18.44	228	14.36	
1959	1625	2,250	Feb. 11, 1959	5.6	211	.981	13.29	197	12.46	
1960	1705	2,900	June 23, 1960	7.7	183	.851	11.58	-	-	

3410. Raccoon Creek at Mansfield, Ind.

Location.--Lat 39°41', long 87°07', in sec.8, T.14 N., R.6 W., on left bank at downstream side of covered bridge at Mansfield, three-quarters of a mile downstream from Rocky Fork Creek.

Drainage area.--240 sq mi.

Records available.--May 1939 to September 1958.

Gage.--Water-stage recorder. Datum of gage is 564.71 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). May 4 to Sept. 25, 1939, staff gage at site 350 ft upstream at datum 13.00 ft higher; Sept. 26, 1939, to June 14, 1941, chain gage and June 15 to Nov. 5, 1941, staff gage at present site and datum.

Average discharge.--19 years (1939-58), 226 cfs (revised).

Extremes.--1939-58: Maximum discharge, 38,400 cfs June 28, 1957 (gage height, 21.54 ft); minimum, about 1.0 cfs (regulated) Jan. 11, 1945.

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

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	116	332	421	432	708	349	331	252	120	397	51.1	21.8	292
1952	23.4	70.9	235	461	396	536	580	196	484	87.5	32.8	49.7	261
1953	14.4	33.4	99.4	151	122	583	243	249	115	204	24.7	11.3	155
1954	6.37	12.5	16.7	40.1	52.0	92.1	202	124	70.8	17.1	11.0	3.62	53.8
1955	36.8	18.9	61.5	252	200	327	262	109	84.3	51.4	12.3	9.36	118
1956	72.4	167	73.5	36.4	625	242	306	*329	*462	249	37.5	10.9	*215
1957	8.79	21.9	165	*210	302	178	*890	*776	1,796	319	122	46.9	*401
1958	84.3	275	857	242	120	160	163	259	496	451	395	129	305
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.56	1.54	2.02	2.08	5.07	1.67	1.54	1.21	0.56	1.90	0.25	0.10	16.50
1952	.11	.33	1.13	2.21	1.78	2.57	2.70	.94	2.25	.42	.16	.23	14.83
1953	.07	.16	.48	.72	.53	2.80	1.13	1.20	.53	.98	.12	.05	8.77
1954	.03	.06	.03	.19	.23	.44	.94	.60	.33	.08	.05	.02	3.05
1955	.18	.09	.30	1.21	.87	1.57	1.22	.52	.39	.25	.06	.04	6.70
1956	.35	.78	.35	.18	2.80	1.16	1.43	*1.58	*2.14	1.20	.18	.05	*12.20
1957	.04	.10	.79	*1.01	1.31	.86	*4.14	*3.72	8.34	1.53	.59	.22	*22.65
1958	.40	1.28	4.12	1.16	.52	.77	.76	1.24	2.31	2.17	1.90	.60	17.23
1959	-	-	-	-	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-	-	-	-	-

* Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	544	30.77
1951	1335	-	-	-	-	1.22	16.50	247	13.95
1952	1335	4,510	Feb. 20, 1952	17	292	1.09	14.83	246	13.97
1953	1335	7,510	June 22, 1952	9.8	261	.646	8.77	146	8.23
1954	1335	5,160	Mar. 3, 1953	3.0	155	.224	3.05	60.8	3.45
1955	1335	1,020	May 2, 1954	2.0	55.8	.492	6.70	135	7.61
1956	1385	2,620	Mar. 1, 1955	2.1	118	-	-	-	-
1956	1435	8,460	June 23, 1956	3.5	*215	*.896	*12.20	*206	*11.65
1957	1505	38,400	June 28, 1957	2.7	*401	*1.67	*22.65	*487	*27.52
1958	1555	8,270	June 11, 1958	20	305	1.27	17.23	-	-
1959	-	-	-	-	-	-	-	-	-
1960	-	-	-	-	-	-	-	-	-

* Revised.

3412. Little Raccoon Creek near Catlin, Ind.

Location.--Lat 39°40'38", long 87°13'38", in NW $\frac{1}{4}$ 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 1960 (fragmentary prior to October 1957).

Gage.--Water-stage recorder. Datum of gage is 515.5 ft above mean sea level, datum of 1929 (levels from damaged bench mark).

Extremes.--1956-60: 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 $8\frac{1}{2}$ miles upstream, adjusted to drainage area at gage; minimum, 4.8 cfs Sept. 25, 1959 (gage height, 1.56 ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	-	-	18.0	-
1958	36.2	103	396	146	52.0	65.1	64.8	113	227	273	283	108	157
1959	31.5	208	71.1	236	347	208	157	86.4	55.6	14.5	10.7	7.28	118
1960	12.2	23.4	42.7	92.1	236	122	88.1	98.8	413	66.5	27.0	13.6	102

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	-	-	0.15	-
1958	0.31	0.86	3.44	1.27	0.41	0.56	0.54	0.98	1.91	2.36	2.46	.91	16.01
1959	.27	1.74	.62	2.04	2.72	1.80	1.32	.75	.47	.13	.09	.06	12.01
1960	.11	.20	.37	.80	1.91	1.06	.74	.86	3.47	.58	.23	.11	10.44

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1957	1505	53,400	June 28, 1957	-	-	-	-	-	-	-
1958	1555	5,800	Dec. 20, 1957	11	157	1.18	16.01	137	14.03	
1959	1625	5,160	Jan. 21, 1959	5.2	118	.887	12.01	98.4	10.06	
1960	1705	9,300	June 23, 1960	6.0	102	.767	10.44	-	-	

3413. Raccoon Creek at Coxville, Ind.

Location.--Lat 39°39'09", long 87°17'37", in SW $\frac{1}{4}$ 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 1960.

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).

Extremes.--1956-60: 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	17.5	44.3	259	380	523	332	1,648	1,135	3,613	689	243	99.2	744
1958	138	428	1,656	421	193	228	241	419	909	848	1,062	330	577
1959	140	557	281	971	1,210	755	625	363	238	80.8	109	45.6	443
1960	94.0	153	243	442	858	430	379	380	1,013	291	99.9	47.3	366

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	0.05	0.11	0.68	1.00	1.24	0.87	4.18	2.97	9.16	1.81	0.64	0.25	22.96
1958	.36	1.09	4.34	1.10	.46	.60	.61	1.10	2.31	2.22	2.78	.84	17.81
1959	.37	1.42	.74	2.55	2.86	1.98	1.58	.95	.60	.21	.29	.12	13.67
1960	.25	.39	.64	1.15	2.10	1.13	.96	1.00	2.57	.76	.26	.12	11.33

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1957	1505	108,000	June 28, 1957	6.5	744	1.69	22.96	904	27.91	
1958	1555	15,800	Dec. 20, 1957	45	577	1.31	17.81	471	14.55	
1959	1625	10,500	Jan. 21, 1959	35	443	1.01	13.67	402	12.42	
1960	1705	15,500	June 23, 1960	36	366	.832	11.33	-	-	

3415. Wabash River at Terre Haute, Ind.

Location.--Lat 39°28'00", long 87°25'08", in NW $\frac{1}{4}$ 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 1960. 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.--33 years (1927-60), 10,420 cfs.

Extremes.--1927-60: 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.--Water for municipal supply for Terre Haute diverted above gage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7,205	11,380	17,870	20,680	33,290	21,280	22,110	14,080	7,668	18,470	4,475	3,042	14,850
1952	3,296	7,072	8,803	25,260	25,810	25,260	25,790	17,230	19,410	5,554	3,577	3,325	14,139
1953	2,208	2,492	5,542	7,128	7,298	24,150	14,770	10,590	6,119	8,543	3,290	1,524	7,809
1954	1,378	1,405	1,444	1,747	2,938	4,107	9,813	5,491	6,491	2,535	2,685	1,988	3,491
1955	6,961	2,982	3,678	14,020	6,860	19,390	12,130	7,708	9,540	6,661	2,791	1,466	7,871
1956	6,442	13,240	5,336	2,933	17,100	16,990	8,698	13,980	14,420	7,332	3,245	1,660	9,236
1957	1,103	1,445	3,252	5,559	8,088	8,118	36,140	23,110	20,040	27,840	5,462	3,927	12,000
1958	5,028	8,624	27,910	12,940	5,588	8,964	7,540	6,833	44,130	24,360	21,330	5,571	14,960
1959	3,427	9,113	6,146	12,090	46,100	21,500	21,210	23,160	6,840	4,397	2,675	2,204	13,010
1960	3,650	6,369	7,703	11,610	19,190	8,688	19,200	10,520	15,340	8,019	4,360	2,716	9,768

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.68	1.04	1.69	1.95	2.84	2.01	2.02	1.33	0.70	1.56	0.42	0.29	16.53
1952	.31	.65	.83	2.39	2.28	2.39	2.36	1.63	1.78	.52	.34	.30	15.78
1953	.21	.23	.52	.67	.62	2.28	1.35	.98	.56	.81	.31	.14	8.68
1954	.17	.13	.14	.16	.25	.39	.90	.52	.59	.24	.25	.18	3.88
1955	.36	.27	.35	1.33	.59	1.83	1.11	.73	.87	.63	.26	.13	8.76
1956	.61	1.22	.50	.28	1.51	1.60	.80	1.33	1.32	.69	.31	.15	10.32
1957	.10	.13	.31	.53	.69	.77	3.30	2.18	1.83	2.63	.52	.36	13.35
1958	.48	.79	2.64	1.22	.48	.85	.69	.65	4.04	2.31	2.02	.51	16.68
1959	.32	.83	.56	1.14	3.94	2.03	1.94	2.19	.63	.42	.25	.20	14.47
1960	.34	.58	.73	1.10	1.69	.82	1.75	.99	1.41	.76	.47	.25	10.89

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	23,387	26.04
1951	1205	91,900	Feb. 23, 1951	2,660	14,850	1.22	16.53	13,390	14.91
1952	1235	43,700	Feb. 2, 1952	2,170	14,139	1.16	15.78	13,400	14.95
1953	1275	38,800	Mar. 20, 1953	1,420	7,809	.640	8.68	7,301	8.12
1954	1335	18,900	Apr. 14, 1954	884	3,491	.286	3.88	4,284	4.76
1955	1385	31,100	Jan. 11, 1955	990	7,871	.645	8.76	8,812	9.81
1956	1435	39,100	June 1, 1956	1,180	9,236	.757	10.32	7,638	8.53
1957	1505	82,000	June 29, 30, 1957	1,010	12,000	.984	13.35	15,020	16.72
1958	1555	al25,000	June 15, 16, 1958	2,230	14,960	1.23	16.68	13,020	14.50
1959	1625	109,000	Feb. 15, 1959	1,690	13,010	1.07	14.47	12,930	14.39
1960	1705	47,900	June 25, 1960	2,270	9,768	.801	10.89	-	-

a Maximum daily.

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 1960. 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.

Average discharge--22 years (1938-60), 11,390 cfs.

Extremes--1938-60: 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, 1918, 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 of water temperatures for the period July 1954 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7,027	11,015	18,094	21,661	33,368	27,748	24,670	15,217	7,543	17,863	5,401	3,405	15,990
1952	3,375	7,642	9,062	24,770	29,140	27,380	27,010	17,940	22,370	6,267	4,156	3,667	15,160
1953	2,517	2,629	5,640	7,558	7,519	26,870	15,850	10,780	6,602	8,622	3,488	1,603	8,332
1954	1,419	1,437	1,463	1,921	3,012	4,179	9,620	5,826	6,473	2,664	2,415	1,963	3,524
1955	6,609	3,146	3,310	13,750	6,424	18,740	12,300	7,673	9,395	6,636	3,081	1,764	7,776
1956	6,216	12,920	5,505	2,922	16,400	17,990	9,489	12,840	16,170	7,640	3,666	1,803	9,419
1957	1,382	1,654	3,221	5,302	7,997	8,246	41,840	27,880	20,140	36,240	6,135	4,159	13,690
1958	5,346	8,965	30,610	16,260	6,273	9,232	7,819	7,708	45,640	27,980	23,680	6,825	16,430
1959	4,117	9,327	7,348	12,530	48,650	23,410	21,850	24,930	6,830	4,732	2,746	2,095	13,810
1960	3,367	6,303	7,556	12,010	20,700	8,794	21,150	11,170	16,880	9,465	5,157	2,531	10,350

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.62	0.94	1.59	1.91	2.65	2.44	2.10	1.34	0.64	1.57	0.48	0.29	16.57
1952	.30	.65	.80	2.18	2.40	2.41	2.30	1.58	1.91	.55	.37	.31	15.76
1953	.22	.22	.50	.67	.60	2.37	1.35	.95	.56	.76	.31	.14	8.65
1954	.12	.12	.13	.17	.24	.37	.82	.51	.55	.23	.21	.17	3.64
1955	.58	.27	.29	1.21	.51	1.65	1.05	.69	.80	.58	.27	.15	8.05
1956	.55	1.10	.48	.26	1.35	1.58	.81	1.13	1.37	.67	.32	.15	9.77
1957	.12	.14	.28	.47	.64	.75	3.56	2.46	1.72	3.19	.54	.35	14.20
1958	.47	.76	2.70	1.43	.50	.81	.67	.68	3.88	2.47	2.09	.58	17.04
1959	.36	.79	.65	1.10	3.86	2.06	1.86	2.19	.58	.42	.24	.18	14.29
1960	.30	.54	.66	1.06	1.70	.77	1.80	.98	1.44	.83	.45	.22	10.75

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1950	-	-	-	-	-	-	-	24,845	25.74	-	-
1951	1205	101,000	Feb. 26, 1951	2,660	15,990	1.22	16.57	14,640	15.17	-	-
1952	1235	46,900	Mar. 20, 1952	2,000	15,160	1.16	15.76	14,383	14.95	-	-
1953	1275	40,800	Mar. 23, 1953	1,470	8,332	.636	8.65	7,788	8.08	-	-
1954	1335	17,400	Apr. 15, 1954	1,270	3,524	.269	3.64	4,261	4.41	-	-
1955	1385	29,100	Mar. 10, 1955	1,370	7,776	.594	8.05	8,732	9.04	-	-
1956	1435	38,400	June 3, 1956	1,340	9,419	.719	9.77	7,892	8.18	-	-
1957	1505	81,800	July 2, 1957	1,340	13,690	1.05	14.20	16,960	17.59	-	-
1958	1555	128,000	June 18, 1958	2,800	16,430	1.25	17.04	14,380	14.91	-	-
1959	1625	108,000	Feb. 17, 1959	1,600	13,810	1.05	14.29	13,510	13.99	-	-
1960	1705	45,500	June 27, 28, 1960	2,090	10,350	.790	10.75	-	-	-	-

3425. Busseron Creek near Carlisle, Ind.

Location--Lat 38°58'30", long 87°25'35", in W $\frac{1}{4}$ sec.17, T.6 N., R.9 W., on right bank 10 ft downstream from bridge on State Highway 58, $1\frac{1}{2}$ miles northwest (corrected) of Carlisle, and $6\frac{1}{4}$ miles upstream from mouth.

Drainage area--228 sq mi.

Records available--October 1943 to September 1960.

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--17 years (1943-60), 228 cfs.

Extremes--1943-60: Maximum discharge, 8,800 cfs Jan. 5, 1950 (gage height, 20.05 ft); no flow many days in 1954.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	24.3	368	353	449	847	370	364	100	86.9	122	48.9	8.30	258
1952	115	506	608	509	402	985	651	34.9	151	11.5	4.97	30.2	316
1953	1.68	8.08	23.5	98.3	63.9	787	237	126	21.9	8.01	1.89	.68	116
1954	1.77	1.09	2.87	9.14	11.3	12.8	35.6	31.6	8.88	.04	12.7	1.60	10.8
1955	8.91	.94	26.5	112	157	316	322	51.0	70.0	67.3	5.42	48.2	98.2
1956	40.1	299	56.1	25.5	611	160	215	246	432	41.9	8.00	6.12	175
1957	3.95	16.2	83.8	125	181	164	938	853	573	282	86.8	15.4	276
1958	15.9	362	1222	271	77.0	195	117	197	565	444	240	24.9	315
1959	28.2	221	59.6	501	760	298	378	238	211	26.7	55.3	30.1	230
1960	25.8	127	280	277	287	293	111	208	195	47.4	4.49	2.30	155

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.12	1.80	1.79	2.27	3.87	1.87	1.78	0.51	0.43	0.62	0.25	0.04	15.35
1952	.57	2.48	3.07	1.56	1.90	4.97	3.18	.18	.74	.06	.03	.15	18.89
1953	.009	.04	.12	.50	.29	4.00	1.17	.64	.11	.04	.01	.004	6.93
1954	.009	.0005	.02	.05	.05	.06	.17	.16	.04	.0002	.06	.008	.63
1955	.04	.005	.13	.57	.72	1.60	1.57	.26	.34	.34	.03	.24	5.84
1956	.20	1.46	.28	.13	2.89	.81	1.05	1.24	2.11	.21	.04	.03	10.45
1957	.02	.08	.42	.63	.83	.83	4.59	4.31	2.60	1.43	.44	.08	16.46
1958	.08	1.77	6.18	1.37	.35	.99	.57	1.00	2.86	2.25	1.21	.12	18.75
1959	.14	1.08	.30	2.54	3.47	1.51	1.85	1.20	1.03	.13	.28	.15	13.68
1960	.13	.62	1.42	1.40	1.36	1.49	.54	1.05	.95	.24	.02	.01	9.23

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	541	32.35
1951	1205	2,900	Feb. 21, 1951	2.0	258	1.13	15.35	298	17.76
1952	1235	4,070	Mar. 11, 1952	1.5	316	1.39	18.89	217	13.00
1953	1275	3,890	Mar. 4, 1953	.1	116	.511	6.93	114	6.77
1954	1335	430	Aug. 4, 1954	0	10.8	.047	.63	13.4	.77
1955	1385	2,040	Apr. 13, 1955	0	98.2	.431	5.84	128	7.61
1956	1435	3,980	June 22, 1956	2.0	175	.768	10.45	151	9.03
1957	1505	5,200	May 23, 1957	1.5	276	1.21	16.46	403	23.97
1958	1555	5,400	Dec. 21, 1957	2.6	315	1.38	18.75	205	12.24
1959	1625	3,100	Jan. 22, 1959	5.4	230	1.01	13.68	241	14.33
1960	1705	1,690	Dec. 12, 1959	1.6	155	.680	9.23	-	-

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 1960. 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. 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.--31 years (1929-60), 11,510 cfs (revised).

Extremes.--1929-60: 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).

Correction.--In WSP 1305, the date of the peak discharge for the water year 1948 was published incorrectly; it should be Mar. 31.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	7,425	12,166	18,730	23,029	29,655	31,461	24,530	15,478	8,337	17,023	5,680	3,693	16,372
1952	3,704	9,561	10,980	25,050	30,010	29,990	28,140	17,850	22,100	6,926	4,452	3,981	15,990
1953	2,548	2,666	5,810	7,689	7,818	27,150	17,030	11,440	7,060	8,681	3,729	1,773	8,638
1954	1,663	1,718	1,739	1,995	3,094	4,458	10,120	5,624	6,129	2,541	2,209	1,975	3,595
1955	6,020	3,061	3,371	13,360	6,829	20,260	13,270	8,492	10,410	7,287	3,257	1,788	*8,138
1956	6,571	13,850	6,216	3,338	17,070	19,310	10,560	13,030	17,930	8,436	3,890	1,862	10,120
1957	1,244	1,496	3,382	5,766	8,728	9,125	40,390	29,090	20,510	36,090	6,531	4,294	13,900
1958	5,204	10,070	30,180	19,340	6,945	10,710	8,763	8,783	42,370	30,280	24,470	7,010	17,090
1959	4,576	9,220	8,255	12,920	46,490	23,490	21,590	25,190	8,104	5,360	3,205	2,073	13,980
1960	3,806	6,843	7,783	12,390	19,560	9,431	19,990	11,790	15,530	10,390	5,682	2,912	10,450

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.62	0.99	1.58	1.94	2.25	2.65	2.00	1.30	0.68	1.43	0.48	0.30	16.22
1952	.31	.78	.92	2.11	2.36	2.52	2.29	1.50	1.80	.58	.37	.32	15.86
1953	.21	.22	.49	.65	.59	2.28	1.39	.96	.57	.75	.51	.14	8.54
1954	.14	.14	.15	.17	.24	1.37	.82	.47	.50	.21	.19	.16	5.56
1955	.51	.25	.28	1.12	.52	1.71	*1.08	.72	.85	.61	.27	.15	*8.08
1956	.55	1.13	.52	.28	1.35	1.63	.86	1.10	1.46	.71	.33	.15	10.07
1957	.10	.12	.28	.49	.66	.77	3.29	2.44	1.67	3.03	.55	.35	13.75
1958	.44	.82	2.54	1.63	.53	.90	.71	7.4	3.45	2.55	2.06	.57	16.94
1959	.39	.75	.70	1.09	3.53	1.97	1.76	2.12	.66	.45	.27	.17	13.86
1960	.32	.56	.65	1.04	1.54	.79	1.62	.99	1.26	.87	.48	.24	10.36

* Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	25,670	25.42
1951	1205	79,400	Feb. 28, 1951	2,710	16,372	1.20	16.22	15,160	15.04
1952	1235	51,200	Mar. 23, 1952	2,360	15,990	1.17	15.86	14,890	14.77
1953	1275	37,200	Mar. 24, 1953	1,640	8,638	.631	8.54	8,139	8.05
1954	1335	18,000	Apr. 16, 1954	1,430	3,595	.262	3.56	4,214	4.17
1955	1385	28,200	Mar. 6, 10, 11	1,400	*8,138	*.594	*8.08	*9,313	*9.23
1956	1435	37,400	June 4, 1956	1,330	10,120	.739	10.07	8,421	8.37
1957	1505	69,400	July 4, 1957	1,140	13,900	1.01	13.75	17,220	17.05
1958	1555	99,600	June 21, 1958	2,430	17,090	1.25	16.94	15,110	14.98
1959	1625	97,000	Feb. 17, 1959	1,390	13,980	1.02	13.86	13,680	13.55
1960	1705	38,000	June 29, 1960	2,280	10,450	.763	10.36	-	-

* Revised.

3445. Range Creek near Casey, Ill.

Location.--Lat 39°19'36", long 88°01'46", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.12, T.10 N., R.10 E., on right bank at downstream side of highway bridge, $2\frac{1}{2}$ miles west of State Highway 49 and 3 miles northwest of Casey.

Drainage area.--7.60 sq mi.

Records available.--October 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 597.28 ft above mean sea level, datum of 1929.

Average discharge.--10 years (1950-60), 5.07 cfs.

Extremes.--1950-60: Maximum discharge, 2,790 cfs June 23, 1960 (gage height, 10.79 ft), from rating curve extended above 900 cfs; no flow for many days each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.42	3.95	5.55	16.5	41.4	6.98	10.8	3.05	1.58	3.05	13.1	0.82	8.71
1952	4.74	11.3	16.0	13.2	9.04	19.6	16.5	.57	5.08	.03	0	.01	8.00
1953	0	.07	.11	.27	.68	15.7	4.47	11.7	.27	.03	.01	0	2.80
1954	0	0	.01	.11	.32	.29	.30	.28	.09	.03	.37	0	.15
1955	.45	0	.08	.67	1.07	1.38	2.21	3.43	1.82	1.55	.16	.52	1.11
1956	1.77	4.70	.84	.05	24.1	3.45	15.1	4.55	.51	.04	0	.02	4.48
1957	0	.04	.79	1.37	6.93	2.54	30.1	12.9	39.8	.94	.07	.19	7.87
1958	2.76	4.99	36.3	5.02	2.63	5.35	1.70	4.01	5.83	31.8	3.88	.51	7.31
1959	.61	9.95	1.35	9.57	23.0	6.71	1.88	.26	.04	.68	2.53	.01	4.58
1960	.17	2.94	5.64	9.35	10.4	10.3	.69	1.94	25.7	1.06	0	0	5.64

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.06	0.58	0.84	2.50	5.87	1.06	1.58	0.46	0.23	0.46	1.99	0.12	15.55
1952	.72	1.65	2.43	2.00	1.28	2.97	2.42	.09	.75	.004	0	.002	14.32
1953	0	.01	.02	.04	.09	2.36	.66	1.77	.04	.004	.001	0	5.02
1954	0	0	.001	.02	.04	.04	.04	.01	.004	.06	0	0	.26
1955	.07	0	.01	.10	.15	.21	.32	.52	.27	.24	.02	.08	1.99
1956	.27	.69	.13	.007	3.41	.52	2.22	.69	.07	.005	0	.002	8.01
1957	0	.005	.12	.21	.95	.39	4.41	1.95	5.84	.14	.01	.03	14.06
1958	.42	.73	5.50	.76	.36	.81	.25	.61	.86	2.10	.59	.07	13.06
1959	.09	1.46	.21	1.45	3.15	1.02	.28	.04	.005	.10	.38	.002	8.19
1960	.05	.43	.85	1.42	1.47	1.57	.10	.29	5.77	.16	0	0	10.09

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	-	-
1951	1385,1435	2,650	Feb. 20, 1951	0	8.71	1.15	15.55	10.6	18.87	
1952	1385,1435	805	Jan. 26, 1952	0	8.00	1.05	14.32	5.35	9.55	
1953	1385,1435	705	May 22, 1953	0	2.80	.368	5.02	2.79	4.99	
1954	1385	56	Aug. 4, 1954	0	.15	.020	.26	.19	1.33	
1955	1385	572	May 28, 1955	0	1.11	.146	1.99	1.68	3.00	
1956	1435	2,120	Apr. 3, 1956	0	4.48	.589	8.01	3.94	7.05	
1957	1505	2,560	June 28, 1957	0	7.87	1.04	14.06	11.5	20.58	
1958	1555	2,440	Dec. 19, 1957	0	7.31	.962	13.06	4.57	8.17	
1959	1625	760	Feb. 10, 1959	0	4.58	.603	8.19	4.34	7.74	
1960	1705	2,790	June 23, 1960	0	5.64	.742	10.09	-	-	

3455. Embarrass River at Ste. Marie, Ill.

Location.--Lat 38°56'10", long 88°01'10", in NW¹/₄NW¹/₄ 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 (revised).

Records available.--October 1909 to December 1912, August 1914 to September 1960.

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.--49 years (1909-12, 1914-60), 1,219 cfs.

Extremes.--1909-12, 1914-60: 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	497	1,033	1,289	2,425	5,718	2,197	2,526	1,238	657	1,860	478	373	1,664
1952	364	1,533	412	2,358	2,447	3,081	2,990	554	1,335	417	88.9	69.2	1,381
1953	28.8	37.1	56.8	93.5	200	2,289	1,855	1,160	343	272	54.4	25.1	537
1954	15.8	16.4	17.0	20.6	21.6	23.4	135	78.3	65.9	18.8	11.6	7.68	35.9
1955	78.4	13.6	32.2	239	218	654	990	610	1,172	881	161	137	432
1956	694	1,526	424	153	3,025	1,330	866	900	1,068	388	109	47.1	866
1957	24.2	29.4	326	553	1,116	1,026	6,171	3,050	5,752	3,616	362	215	1,846
1958	362	999	4,681	1,779	803	1,032	950	1,271	2,569	3,844	2,279	292	1,754
1959	225	1,211	777	1,521	4,748	2,297	1,109	579	252	106	105	36.5	1,055
1960	52.1	281	359	687	1,609	1,278	1,293	942	2,603	854	104	42.7	831

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.38	0.76	0.98	1.85	3.94	1.67	1.86	0.94	0.48	1.42	0.36	0.28	14.92
1952	.28	1.13	1.08	1.80	1.74	2.35	2.21	.42	.98	.32	.07	.05	12.43
1953	.02	.03	.04	.07	.14	1.74	1.37	.88	.25	.21	.04	.02	4.81
1954	.01	.01	.01	.02	.01	.02	.10	.06	.05	.01	.009	.006	.32
1955	.06	.01	.02	.18	.15	.50	.73	.46	.86	.67	.12	.10	3.86
1956	.53	1.12	.32	.12	2.16	1.01	.64	.69	.79	.30	.08	.03	7.79
1957	.02	.02	.25	.42	.77	.78	4.55	2.32	4.24	2.76	.28	.16	16.57
1958	.28	.74	3.72	1.36	.42	.79	.70	.97	1.89	2.93	1.74	.22	15.76
1959	.17	.89	.59	1.16	3.27	1.75	.82	.44	.19	.08	.08	.03	9.47
1960	.04	.17	.27	.52	1.15	.97	.95	.72	1.92	.65	.08	.03	7.47

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2,448	21.95
1951	1205	19,800	Feb. 23, 1951	50	1,664	1.10	14.92	1,704	15.29
1952	1235	8,500	Apr. 7, 1952	36	1,381	.913	12.43	1,115	10.03
1953	1275	5,090	Mar. 5, 1953	17	537	.355	4.81	531	4.75
1954	1335	408	Apr. 20, 1954	1.4	35.9	.024	.32	42.3	.37
1955	1385	4,810	Apr. 24, 1955	3.0	432	.286	3.86	642	5.74
1956	1435	9,600	Feb. 28, 1956	28	866	.572	7.79	678	6.11
1957	1505	39,800	June 30, 1957	23	1,846	1.22	16.57	2,342	21.02
1958	1555	21,300	Dec. 22, 1957	68	1,754	1.16	15.76	1,411	12.67
1959	1625	19,400	Feb. 12, 1959	25	1,055	.697	9.47	924	8.30
1960	1705	12,600	June 26, 1960	27	831	.549	7.47	-	-

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 (revised).

Records available.--October 1940 to September 1960.

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.--20 years (1940-60), 254 cfs.

Extremes.--1940-60: 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	33.8	185	276	584	1,180	395	452	208	113	114	130	89.9	308
1952	77.9	393	478	441	418	811	731	40.5	148	22.6	4.44	4.09	296
1953	.75	2.29	11.0	15.0	35.4	605	360	320	20.9	11.4	2.19	.14	116
1954	.01	.13	.56	2.14	4.82	2.37	10.4	21.3	4.07	.46	.26	.10	3.88
1955	25.2	.95	15.4	105	116	154	276	82.9	142	128	24.1	25.9	90.8
1956	99.0	391	63.9	17.4	951	170	254	216	253	57.3	12.0	7.34	203
1957	.40	2.04	6.77	189	304	212	1,295	421	1,285	179	21.9	16.7	330
1958	43.9	146	1,402	321	96.5	251	124	233	437	1,010	431	47.6	383
1959	30.1	232	89.1	404	903	361	324	118	34.1	24.9	47.0	5.78	209
1960	9.67	44.9	127	211	370	363	107	183	417	89.9	5.10	1.00	160

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.12	0.65	1.00	2.11	3.85	1.43	1.58	0.75	0.39	0.41	0.47	0.35	13.11
1952	.28	1.38	1.73	1.59	1.41	2.93	2.56	.15	.52	.08	.02	.01	12.66
1953	.003	.008	.04	.05	.32	2.19	1.28	1.16	.07	.04	.008	.0005	4.95
1954	.00005	.0004	.002	.008	.02	.009	.04	.08	.01	.002	.0009	.0004	.17
1955	.09	.003	.06	.38	.38	.56	.97	.30	.50	.46	.09	.09	3.88
1956	.36	1.33	.23	.06	3.21	.61	.89	.78	.88	.21	.04	.03	8.63
1957	.001	.007	.24	.68	.99	.77	4.53	1.52	4.50	.65	.08	.06	14.03
1958	.16	.51	5.07	1.16	.32	.91	.43	.84	1.53	3.65	1.56	.17	16.31
1959	.11	.81	.32	1.46	2.95	1.31	1.13	.43	.12	.09	.17	.02	8.92
1960	.03	.16	.46	.76	1.25	1.31	.37	.66	1.46	.32	.02	.004	6.80

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	578	24.61
1951	1205	8,900	Feb. 22, 1951	6.2	308	0.966	13.11	346	14.73
1952	1235	4,660	Mar. 12, 1952	1.2	296	.928	12.66	218	9.32
1953	1275	4,490	Mar. 5, 1953	0	116	.364	4.95	115	4.90
1954	1335	228	May 3, 1954	0	3.88	.012	.17	7.34	.32
1955	1395	1,900	Apr. 24, 1955	0	90.8	.285	3.68	132	5.65
1956	1435	4,490	Feb. 27, 1956	1.1	203	.636	8.63	163	6.96
1957	1505	25,000	June 29, 1957	.2	330	1.03	14.03	459	19.52
1958	1555	13,000	Dec. 20, 1957	2.3	383	1.20	16.31	277	11.81
1959	1625	9,850	Feb. 11, 1959	3.2	209	.655	8.92	196	8.33
1960	1705	5,800	June 25, 1960	.7	160	.502	6.80	-	-

WABASH RIVER BASIN

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 1960. 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 Indianapolis district office of the Geological Survey.

Gage.--Water-stage recorder. Datum of gage is 920.10 ft above mean sea level (city of Muncie bench mark). 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.--29 years (1931-60), 221 cfs (adjusted for diversion after September 1937).

Extremes.--1930-60: 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.--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.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	96.3	403	615	554	785	465	616	212	103	65.9	15.4	8.37	323
1952	12.6	48.2	513	637	436	516	456	144	57.9	15.6	38.4	92.6	247
1953	20.3	50.6	146	220	203	490	123	536	58.2	44.0	25.1	4.44	161
1954	5.10	8.85	18.1	54.5	58.6	180	233	78.3	68.1	11.7	27.1	1.96	62.0
1955	141	77.5	154	380	392	531	207	90.9	76.8	73.6	15.3	70.9	183
1956	257	687	114	63.3	684	247	378	179	158	61.0	11.7	4.01	234
1957	2.30	7.33	52.4	208	220	106	1,032	676	935	200	32.9	28.9	290
1958	47.5	105	742	177	129	167	260	308	1,492	223	234	46.4	328
1959	32.2	102	61.2	747	610	384	411	349	69.0	26.2	8.61	7.64	234
1960	78.5	122	199	369	506	205	130	88.2	43.2	22.8	11.9	5.40	147

Monthly and yearly runoff, in inches (adjusted) ^a

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.52	1.91	2.99	2.60	3.43	2.27	2.89	1.07	0.53	0.37	0.14	0.10	18.82
1952	.12	.28	2.50	3.09	2.00	2.52	2.16	.74	.33	.13	.24	.49	14.60
1953	.16	.29	.76	1.11	.93	2.40	.63	2.62	.34	.28	.19	.08	9.79
1954	.07	.10	.15	.32	.31	.92	1.14	.43	.38	.12	.20	.05	4.19
1955	.73	.42	.80	1.88	1.75	2.59	1.02	.50	.43	.43	.15	.40	11.10
1956	1.29	3.24	.61	.37	3.11	1.24	1.81	.91	.79	.36	.13	.08	13.94
1957	.07	.10	.31	1.06	1.01	.57	4.82	3.30	4.38	1.03	.23	.21	17.09
1958	.30	.55	3.60	.91	.62	.86	1.26	1.53	6.94	1.13	1.19	.28	19.17
1959	.22	.53	.45	3.62	2.68	1.89	1.96	1.74	.40	.21	.13	.11	13.94
1960	.45	.64	1.02	1.83	2.33	1.06	.68	.50	.28	.19	.14	.08	9.20

^a Adjusted for diversion by city of Muncie.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30										Calendar year		
		Observed					Adjusted ^a					Observed	Adjusted ^a	
		Momentary maximum		Minimum		Mean	Mean		Per square mile	Runoff in inches	Mean	Mean	Mean	Runoff in inches
		Discharge	Date	day	day									
1950	-	-	-	-	-	-	-	-	-	-	500	512	28.74	-
1951	1205	7,790	Feb. 21, 1951	6.0	383	335	1.38	18.82	278	290	16.30	230	16.30	-
1952	1235	5,280	Jan. 27, 1952	4.8	247	259	1.07	14.60	217	230	12.91	217	12.91	-
1953	1275	4,480	Mar. 4, 1953	2.4	161	174	.719	9.79	145	158	8.90	145	8.90	-
1954	1335	1,640	Mar. 30, 1954	1.1	62.0	74.9	.310	4.19	90.8	104	5.82	104	5.82	-
1955	1385, 1435	3,080	Jan. 6, 1955	1.3	183	198	.818	11.10	240	255	14.29	240	14.29	-
1956	1435	6,580	Nov. 17, 1955	1.3	234	248	1.02	13.94	151	164	9.28	151	9.28	-
1957	1505	5,880	June 29, 1957	1.1	290	304	1.26	17.09	360	375	21.06	360	21.06	-
1958	1555	10,000	June 14, 1958	12	328	342	1.41	19.17	270	284	15.92	270	15.92	-
1959	1625	9,100	Jan. 22, 1959	2.9	234	249	1.03	13.94	249	265	14.85	249	14.85	-
1960	1705	3,180	Feb. 11, 1960	2.8	147	164	.678	9.20	-	-	-	-	-	-

^a Adjusted for diversion by city of Muncie.

3475. Buck Creek near Muncie, Ind.

Location.--Lat 40°08'05", long 85°22'25", in SE $\frac{1}{4}$ 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 1960.

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.--6 years (1954-60), 39.2 cfs.

Extremes.--1954-60: Maximum discharge, 1,710 cfs Jan. 21, 1959 (gage height, 12.64 ft); minimum, 5.7 cfs Sept. 12, 13, 1956; minimum gage height, 2.41 ft Sept. 18, 1957. Maximum stage known about 15 ft, from information by local residents. Date unknown.

Remarks.--City of Muncie diverts part of its water supply 1 mile below the gage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	28.4	16.2	21.8	*42.6	48.1	61.8	45.5	25.8	36.2	33.7	14.4	*27.2	*33.4
1956	38.7	77.4	27.5	20.6	66.4	41.2	57.3	51.3	30.8	19.9	12.9	9.89	37.6
1957	*9.77	11.7	19.0	28.3	30.9	22.7	101	79.5	118	43.6	23.0	20.8	42.1
1958	23.5	31.3	84.9	43.7	31.5	28.5	31.2	49.1	153	41.8	53.7	23.7	49.7
1959	21.3	27.3	21.7	96.2	76.6	52.7	58.0	64.3	29.5	22.1	17.0	15.1	41.6
1960	21.3	26.9	29.9	52.1	73.2	41.5	29.5	29.1	24.9	18.1	12.0	9.42	30.5

*Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	0.89	0.49	0.68	*1.34	1.36	1.94	1.38	0.81	1.10	1.06	0.45	*0.83	*12.33
1956	1.21	2.35	.86	.65	1.95	1.29	1.74	1.61	.94	.62	.40	.30	13.92
1957	*.31	.36	.60	.89	.88	.71	3.02	2.50	3.59	1.37	.72	.63	*15.63
1958	.74	.95	2.66	1.37	.89	.90	.95	1.54	4.65	1.31	1.68	.72	18.36
1959	.67	.83	.68	3.02	2.18	1.66	1.76	2.02	.90	.69	.53	.46	15.40
1960	.67	.62	.94	1.64	2.15	1.30	.90	.91	.76	.57	.38	.29	11.33

*Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-
1955	1385	*340	Sept. 29, 1955	8.3	*33.4	*0.910	*12.33	*39.8	*14.69
1956	1435	990	Nov. 16, 1955	5.8	37.6	1.02	13.92	29.0	*10.77
1957	1505	1,150	June 28, 1957	*6.7	42.1	1.15	*15.63	50.5	18.71
1958	1555	1,500	June 13, 1958	14	49.7	1.35	18.36	43.6	16.19
1959	1625	1,710	Jan. 21, 1959	12	41.6	1.13	15.40	42.3	15.65
1960	1705	634	Feb. 10, 1960	7.6	30.5	.851	11.33	-	-

* Revised.

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 1960. 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. 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.--30 years (1926, 1931-60), 380 cfs.

Extremes.--1925-26, 1931-60: 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.--City of Anderson diverts water for municipal supply above gage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	175	584	922	775	1,346	753	1,021	403	243	190	77	66	540
1952	67.2	153	695	1,072	774	916	764	303	176	96.6	108	179	434
1953	85.3	126	294	†562	340	782	265	801	197	212	115	57.8	304
1954	51.9	60.1	84.4	127	134	306	437	175	131	72.7	72.3	41.1	141
1955	226	144	218	599	473	798	447	208	219	162	86.4	129	309
1956	379	*1034	216	136	1,007	432	703	506	343	161	91.8	54.0	*419
1957	48.4	62.3	148	312	352	234	1,554	1,058	1,575	456	155	140	506
1958	157	234	1,108	544	234	324	398	538	2,232	450	500	162	557
1959	121	238	196	1,103	1,071	649	724	674	202	115	80.9	70.7	433
1960	193	235	388	651	895	422	329	250	184	120	78.9	56.8	315

* Revised.

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.50	1.63	2.65	2.23	3.49	2.17	2.84	1.16	0.68	0.55	0.22	0.18	18.30
1952	.19	.43	1.74	3.08	2.08	2.63	2.13	.87	.49	.28	.31	.50	14.73
1953	.25	.35	.84	1.04	.88	2.25	1.74	2.30	.55	.61	.33	.16	10.30
1954	.15	.17	.24	.37	.35	.88	1.22	.50	.36	.21	.21	.11	4.77
1955	.65	.40	.63	1.72	1.23	2.29	1.24	.60	.61	.47	.25	.36	10.45
1956	1.09	*2.88	.62	.39	2.71	1.24	1.95	1.45	.95	.46	.26	.15	*14.15
1957	.14	.17	.43	.90	.91	.67	4.33	3.04	4.38	1.31	.45	.39	17.12
1958	.45	.65	3.18	.99	.61	.93	1.11	1.54	6.21	1.29	1.44	.45	18.85
1959	.35	.68	.56	3.17	2.78	1.87	2.02	1.94	.56	.33	.23	.20	14.67
1960	.55	.65	1.12	1.87	2.41	1.21	.91	.72	.51	.34	.23	.16	10.68

* Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	811	27.37
1951	1205	-	Feb. 22, 1951	52	540	1.35	18.30	468	15.88
1952	1235	6,350	Jan. 28, 1952	52	434	1.08	14.73	407	13.81
1953	1275	4,900	Mar. 5, 1953	46	304	.758	10.30	278	9.42
1954	1335	1,820	Mar. 30, 1954	32	141	.352	4.77	174	5.89
1955	1385	4,210	Jan. 6, 1955	38	309	.771	10.45	*595	*13.36
1956	1435	†7,210	Nov. 17, 1955	46	*419	*1.04	*14.15	304	10.30
1957	1505	9,590	June 29, 1957	46	506	1.26	17.12	610	20.66
1958	1555	14,000	June 14, 1958	92	557	1.39	18.85	477	16.14
1959	1625	13,300	Jan. 22, 1959	54	433	1.08	14.67	455	15.42
1960	1705	4,060	Feb. 11, 1960	50	315	.786	10.68	-	-

* Revised.

3485. White River near Noblesville, Ind.

Location.--Lat 40°07', long 85°58', in sec.4, T.19 N., R.5 E., near center 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 1960. 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.--43 years (1915-26, 1928-60), 815 cfs.

Extremes.--1915-26, 1928-60: 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 discharge, 36 cfs Sept. 25, 1941.

Remarks.--Water temperatures for the period October 1953 to July 1957 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	289	1,069	1,596	1,711	2,590	1,419	1,884	777	382	374	138	106	1,018
1952	113	225	1,078	2,227	1,726	2,110	1,547	745	376	158	178	366	903
1953	143	248	574	783	686	1,741	742	1,372	393	480	213	105	626
1954	99.6	113	141	214	256	494	812	307	267	135	122	67.2	252
1955	321	197	337	1,187	917	1,517	862	386	477	334	170	184	573
1956	686	1,708	478	254	1,763	956	1,065	1,245	919	324	166	111	798
1957	101	123	258	605	825	3,567	1,804	2,866	1,319	404	404		1,082
1958	488	728	2,442	724	429	678	674	818	4,338	1,003	862	330	1,123
1959	284	761	441	1,908	2,249	1,284	1,667	1,313	370	211	155	129	888
1960	262	361	571	969	1,457	744	558	505	434	500	174	117	552

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.41	1.47	2.26	2.42	3.31	2.01	2.58	1.10	0.54	0.53	0.20	0.15	16.98
1952	.16	.31	1.53	3.15	2.29	2.99	2.12	1.06	.50	.22	.25	.50	15.08
1953	.20	.34	.81	1.11	.98	2.47	1.02	1.94	.54	.68	.30	.14	10.43
1954	.14	.16	.20	.30	.33	.70	1.11	.43	.37	.19	.17	.09	4.19
1955	.45	.27	.48	1.68	1.18	2.14	1.18	.55	.65	.47	.24	.25	9.54
1956	.97	2.34	.68	.36	2.34	1.33	1.46	1.76	1.26	.46	.24	.15	13.35
1957	.14	.17	.37	.86	1.05	.75	4.89	2.56	3.93	1.87	.57	.55	17.71
1958	.69	1.00	3.46	1.02	.55	.96	.92	1.15	5.95	1.42	1.22	.45	18.79
1959	.40	1.04	.62	2.70	2.87	1.82	2.29	1.86	.51	.30	.22	.18	14.81
1960	.37	.49	.81	1.37	1.93	1.05	.76	.72	.59	.71	.25	.16	9.21

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,552	25.88
1951	1205	13,800	Feb. 22, 1951	94	1,018	1.25	16.98	889	14.84
1952	1235	10,800	Mar. 12, 1952	90	903	1.11	15.08	864	14.43
1953	1275	7,710	Mar. 5, 1953	88	626	.769	10.43	574	9.58
1954	1335	2,340	Mar. 31, 1954	54	252	.310	4.19	294	4.89
1955	1385	6,390	Jan. 7, 1955	70	573	.704	9.54	740	12.33
1956	1435	9,340	Nov. 18, 1955	91	798	.980	13.35	600	10.04
1957	1505	20,800	June 29, 1957	81	1,062	1.30	17.71	1,330	22.18
1958	1555	26,600	June 14, 1958	180	1,128	1.39	18.79	943	15.70
1959	1625	412,500	Jan. 23, 1959	99	888	1.09	14.81	865	14.42
1960	1705	6,260	Feb. 11, 1960	106	552	.678	9.21	-	-

a Maximum daily discharge; previously published momentary maximum discharge has been found to be unreliable and should not be used.

3490. White River at Noblesville, Ind.

Location.--Lat 40°02'50" (revised), long 86°01'00", in SE $\frac{1}{4}$ sec.36, T.19 N., R.4 E., on right bank at downstream side of Logan Street Bridge in Noblesville, 1 $\frac{1}{2}$ miles upstream from Cicero Creek, 3 $\frac{1}{2}$ miles downstream from dam at Clare, and at mile 269.0.

Drainage area.--837 sq mi.

Records available.--October 1946 to September 1960. 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 1923.

Average discharge.--14 years (1946-60), 883 cfs.

Extremes.--1946-60: Maximum discharge, 24,000 cfs June 15, 1958 (gage height, 20.55 ft); minimum, 4.8 cfs Sept. 9, 1947; minimum gage height, 3.99 ft Sept. 18, 1948; 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.--Flow regulated by powerplant above station. Records of water temperatures for the period November 1952 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	306	1,086	1,762	1,656	2,679	1,515	1,933	858	374	408	142	122	1,057
1952	132	227	1,112	2,400	1,831	2,189	1,565	722	374	161	190	349	936
1953	149	265	587	792	727	1,882	796	1,442	371	521	217	118	657
1954	114	126	151	240	289	515	839	318	269	142	156	69.3	266
1955	347	213	364	1,374	878	1,647	980	423	515	372	181	199	624
1956	724	1,750	509	261	1,795	1,004	1,108	1,393	1,053	347	159	115	844
1957	108	128	281	633	852	558	3,642	1,852	2,834	1,409	407	419	1,087
1958	495	751	2,594	765	432	674	657	810	4,432	1,006	921	361	1,160
1959	303	830	477	1,994	2,359	1,391	1,727	1,442	386	213	150	133	941
1960	264	378	593	999	1,524	779	640	550	448	520	176	106	578

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.42	1.45	2.43	2.28	3.33	2.09	2.58	1.15	0.50	0.56	0.20	0.16	17.15
1952	.16	.30	1.53	3.31	2.36	3.01	2.09	.99	.50	.22	.26	.47	15.22
1953	.21	.34	.81	1.09	.90	2.59	1.06	1.99	.49	.72	.30	.16	10.66
1954	.16	.17	.21	.33	.36	.71	1.12	.44	.36	.20	.19	.09	4.34
1955	.48	.28	.50	1.89	1.09	2.27	1.30	.58	.69	.51	.25	.27	10.11
1956	1.00	2.33	.70	.36	2.31	1.38	1.47	1.91	1.41	.48	.22	.15	13.73
1957	.15	.17	.39	.87	1.06	.74	4.85	2.55	3.78	1.94	.56	.56	17.62
1958	.68	1.00	3.57	1.05	.54	.93	.88	1.12	5.91	1.38	1.27	.48	18.81
1959	.42	1.11	.66	2.74	2.94	1.91	2.30	1.98	.51	.29	.21	.18	15.25
1960	.36	.50	.82	1.37	1.96	1.07	.85	.76	.60	.72	.24	.14	9.39

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,626	26.36
1951	1205	13,300	Feb. 23, 1951	96	1,057	1.26	17.15	1,626	26.36
1952	1235	10,500	Jan. 25, 1952	90	936	1.12	15.22	896	14.57
1953	1275	7,560	Mar. 5, 1953	84	657	.785	10.66	607	9.84
1954	1335	2,380	Mar. 31, 1954	44	266	.318	4.34	311	5.06
1955	1385	7,140	Jan. 7, 1955	68	624	.746	10.11	795	12.88
1956	1435	8,150	Nov. 18, 1955	85	844	1.01	13.73	640	10.40
1957	1505	21,100	June 30, 1957	72	1,087	1.30	17.62	1,367	22.16
1958	1555	24,000	June 15, 1958	200	1,160	1.39	18.81	970	15.75
1959	1625	13,500	Jan. 23, 1959	82	941	1.12	15.25	910	14.74
1960	1705	6,020	Feb. 11, 1960	86	578	.691	9.39	-	-

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 1960.

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.--6 years (1954-60), 137 cfs.

Extremes.--1954-60: 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	18.6	11.4	43.2	210	99.3	184	162	65.1	70.8	154	10.7	12.5	87.0
1956	86.8	180	59.8	18.7	276	121	89.8	297	190	205	15.1	4.14	128
1957	1.65	3.16	67.9	115	189	106	623	314	533	289	112	63.4	201
1958	114	196	483	86.6	44.9	87.7	47.2	52.4	624	213	161	19.4	178
1959	18.6	205	73.4	275	365	182	270	180	38.8	12.4	3.16	5.55	135
1960	23.4	52.1	98.7	137	222	162	104	48.9	52.7	152	47.4	5.66	92.0

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	0.16	0.10	0.38	1.84	0.79	1.61	1.38	0.57	0.60	1.36	0.09	0.11	8.99
1956	.76	1.53	.53	.16	2.28	1.07	.76	2.62	1.62	1.80	.13	.04	13.30
1957	.02	.03	.60	1.01	1.58	.93	5.31	2.77	4.54	2.55	.99	.54	20.87
1958	1.00	1.67	4.25	.76	.36	.77	.40	.46	5.31	1.88	1.42	.17	18.45
1959	.16	1.74	.65	2.42	3.06	1.60	2.30	1.58	.33	.11	.03	.05	14.03
1960	.21	.44	.87	1.21	1.82	1.43	.89	.43	.45	1.34	.42	.05	9.56

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-
1955	1385	1,280	July 16, 1955	1.2	87.0	0.664	8.99	108	11.17
1956	1435	1,540	July 21, 1956	1.5	128	.977	13.30	107	11.13
1957	1505	6,720	June 29, 1957	.5	201	1.53	20.87	262	27.14
1958	1555	2,740	June 15, 1958	8.4	178	1.36	18.45	136	14.08
1959	1625	2,000	Feb. 11, 1959	1.0	135	1.03	14.03	125	13.00
1960	1705	1,150	Feb. 10, Mar. 29	1.6	92.0	.702	9.56	-	-

3497. Little Cicero Creek near Arcadia, Ind.

Location.--Lat 40°10', long 86°03', on line between secs. 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 1960.

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

Average discharge.--5 years (1955-60), 45.4 cfs.

Extremes.--1955-60: Maximum discharge, 3,980 cfs June 28, 1957 (gage height, 8.69 ft); no flow Oct. 9, 10, 1956.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	29.1	64.0	18.6	5.04	87.3	37.4	29.1	127	55.4	68.8	3.39	1.86	43.8
1957	23	1.50	22.0	39.1	60.4	24.0	195	86.2	172	51.8	49.7	9.81	58.9
1958	31.4	64.7	145	27.8	17.4	27.5	15.4	23.6	172	76.8	110	15.8	61.0
1959	18.2	52.7	23.0	92.7	99.7	52.0	61.3	27.9	9.22	3.24	.94	1.29	36.4
1960	4.48	15.6	26.2	36.3	68.2	41.5	24.4	8.55	18.8	69.5	13.4	1.06	27.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0.75	1.60	0.48	0.13	2.10	0.98	0.73	3.27	1.38	1.78	0.09	0.05	13.32
1957	.01	.04	.57	1.01	1.41	.62	4.86	2.22	4.30	1.34	1.28	.24	17.90
1958	.81	1.62	3.74	.72	.41	.71	.38	.61	4.30	1.98	2.84	.39	18.51
1959	.47	1.32	.59	2.39	2.32	1.34	1.53	.72	.23	.08	.02	.03	11.04
1960	.12	.39	.68	.94	1.65	1.07	.61	.22	.47	1.79	.35	.03	8.32

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1956	1435	1,000	May 29, 1956	0.1	43.8	0.980	13.38	36.5	11.11
1957	1505	3,980	June 28, 1957	0	58.9	1.32	17.90	77.2	23.45
1958	1555	1,480	June 10, 1958	1.3	61.0	1.36	18.51	48.5	14.78
1959	1625	1,550	Jan. 21, 1959	.1	36.4	.814	11.04	32.4	9.85
1960	1705	597	July 14, 1960	.6	27.2	.608	8.32	-	-

3500. Cicero Creek near Cicero, Ind.

Location.--Lat 40°05'25", long 86°02'25" (revised), in SE $\frac{1}{4}$ sec.14, T.19 N., R.4 E., near center of right span on upstream side of highway bridge, 2 $\frac{1}{2}$ miles upstream from Hinkle Creek and 3 miles south of Cicero.

Drainage area.--196 sq mi.

Records available.--April 1946 to September 1954.

Gage.--Wire-weight gage. Datum of gage is 772.74 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Average discharge.--8 years (1946-54), 184 cfs.

Extremes.--1946-54: Maximum discharge, 5,560 cfs Jan. 4, 1950 (gage height, 12.06 ft); minimum daily, 0.2 cfs Sept. 23-26, 1954.

Maximum stage known, 15.8 ft in March 1913, from floodmark, from information by local residents.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	22.9	228	353	354	548	208	249	144	33.1	123	6.46	3.73	187
1952	6.25	41.4	269	503	403	494	322	276	127	53.6	7.23	47.0	212
1953	8.24	40.6	139	198	136	475	176	243	82.8	185	74.1	4.72	148
1954	3.70	3.23	4.06	39.0	61.6	105	166	49.0	76.0	14.8	7.43	.68	43.9

Monthly and yearly runoff, in inches, of Cicero Creek near Cicero, Ind.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.13	1.30	2.07	2.08	2.91	1.23	1.42	0.85	0.19	0.72	0.04	0.02	12.96
1952	.04	.24	1.58	2.96	2.22	2.90	1.83	1.62	.72	.32	.04	.27	14.74
1953	.05	.23	.82	1.16	.72	2.79	1.00	1.43	.47	1.09	.44	.03	10.23
1954	.02	.02	.02	.23	.33	.62	.94	.29	.43	.09	.04	.004	3.03

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	338	23.38
1951	1205	2,660	Feb. 12, 1951	1.4	187	0.954	12.96	163	11.32
1952	1235	3,060	Jan. 27, 1952	.5	212	1.08	14.74	201	13.98
1953	1275	2,580	Mar. 4, 1953	1.9	148	.755	10.23	133	9.19
1954	1335	830	Apr. 7, 1954	.2	43.9	.224	3.03	-	-

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 1960.

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

Average discharge.--5 years (1955-60), 22.7 cfs.

Extremes.--1955-60: 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, 1.14 ft Aug. 24, 25, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	10.4	23.2	8.39	4.19	35.4	20.5	13.2	53.0	18.2	19.3	1.77	1.18	17.3
1957	.63	1.10	15.7	23.9	30.5	14.3	97.9	48.2	109	20.4	7.34	6.00	31.0
1958	12.1	32.3	72.2	16.5	9.28	13.5	8.85	13.7	115	22.9	53.8	11.4	31.8
1959	6.46	18.0	10.9	50.5	53.1	28.7	45.5	17.3	5.47	4.45	1.04	1.25	20.0
1960	2.90	6.59	11.7	17.6	36.9	26.7	14.8	5.36	8.70	22.4	5.31	.980	13.3

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1956	0.74	1.58	0.59	0.30	2.34	1.45	0.90	3.75	1.25	1.36	0.13	0.08	14.47
1957	.04	.07	1.11	1.70	1.95	1.01	6.70	3.41	7.46	1.44	.52	.41	25.82
1958	.86	2.21	5.11	1.16	.59	.95	.61	.97	7.88	1.61	3.80	.78	26.53
1959	.46	1.23	.77	3.57	3.40	2.03	3.11	1.22	.37	.31	.07	.09	16.63
1960	.21	.45	.83	1.24	2.44	1.89	1.01	.38	.60	1.58	.38	.07	11.10

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1956	1435	636	May 28, 1956	0.2	17.3	1.06	14.47	15.3	12.78
1957	1505	4,920	June 28, 1957	.2	31.0	1.90	25.82	39.3	32.78
1958	1555	1,840	June 10, 1958	2.0	31.8	1.95	26.53	25.0	20.81
1959	1625	950	Jan. 21, 1959	.4	20.0	1.23	16.63	18.8	15.61
1960	1705	332	July 3, 1960	.6	13.3	.816	11.10	-	-

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 1960.

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.--10 years (1950-60), 204 cfs (adjusted for storage).

Extremes.--1950-60: Maximum discharge, 9,800 cfs June 28, 1957 (gage height, 15.26 ft); minimum, 0.5 cfs Sept. 25, 1954.

Remarks.--Flow regulated by Morse Reservoir located approximately 1.2 miles upstream beginning Dec. 9, 1955 (capacity, 6,900,000,000 gal).

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	10.3	143	-
1951	36.5	258	381	396	642	228	294	168	43.0	164	9.13	4.96	216
1952	10.2	47.0	266	558	450	554	374	300	138	57.6	7.92	72.8	236
1953	13.5	49.3	148	219	154	546	180	297	85.9	214	65.6	6.34	166
1954	5.89	8.24	8.29	48.0	68.7	118	183	58.3	83.0	17.1	8.43	1.35	50.3
1955	44.5	25.9	85.5	399	200	354	307	112	142	294	26.8	26.6	168
1956	182	309	51.1	2.03	102	213	143	551	317	283	161	37.4	197
1957	2.38	2.99	3.03	154	312	167	1,130	516	839	391	167	83.5	312
1958	143	324	815	156	82.1	163	86.9	108	1,052	303	356	54.1	305
1959	50.3	283	116	430	604	298	464	248	55.4	19.3	3.82	6.22	212
1960	30.3	79.5	144	204	361	244	184	80.1	101	265	68.7	7.66	147

Monthly and yearly runoff, in inches (adjusted) a/

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1950	-	-	-	-	-	-	-	-	-	-	0.05	0.73	-
1951	0.19	1.32	2.01	2.09	3.05	1.20	1.50	0.88	0.22	0.86	.05	.03	13.40
1952	.05	.24	1.40	2.94	2.21	2.92	1.91	1.58	.70	.30	.04	.37	14.66
1953	.07	.25	.78	1.15	.73	2.87	.92	1.57	.44	1.13	.35	.03	10.29
1954	.03	.04	.04	.25	.33	.62	.93	.31	.42	.09	.04	.007	3.11
1955	.23	.13	.45	2.10	.95	1.87	1.56	.59	.72	1.54	.14	.14	10.42
1956	.96	1.57	.60	.11	1.92	1.10	.76	2.95	1.53	1.48	.18	.01	13.17
1957	-.005	.05	.57	1.09	1.56	.79	5.79	2.71	4.46	1.84	.87	.42	20.15
1958	.77	1.64	4.31	.80	.42	.83	.43	.56	5.37	1.60	1.86	.27	18.86
1959	.27	1.47	.59	2.32	2.84	1.57	2.42	1.24	.28	.09	.006	.04	13.19
1960	.16	.40	.77	1.08	1.76	1.36	.86	.42	.52	1.38	.38	.009	9.10

a Omitted from 1950 Compilation Report. Adjusted for change in contents in Morse Reservoir beginning December 1955.

Note.--Negative figure indicates that evaporation and seepage exceeded inflow to reservoir.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year					
		Observed				Adjusted a/		Observed		Adjusted a/			
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches	Mean	Mean
		Discharge	Date										
1950	1173	-	-	-	-	-	-	-	-	-	-	-	-
1951	1205	2,510	Feb. 21, 1951	2.7	216	-	0.99	13.40	187	-	-	-	11.57
1952	1235	3,060	Jan. 27, 1952	1.0	236	-	1.08	14.66	226	-	-	-	14.07
1953	1275	2,850	Mar. 4, 1953	4.2	166	-	.758	10.29	150	-	-	-	9.30
1954	1335	802	Apr. 7, 1954	.6	50.3	-	.230	3.11	61.6	-	-	-	3.81
1955	1385	2,570	Jan. 6, 1955	1.5	168	-	.767	10.42	200	205	12.74	-	-
1956	1435	3,370	May 28, 1956	1.5	197	216	.986	13.17	152	172	10.69	-	-
1957	1505	9,800	June 28, 1957	1.2	312	326	1.49	20.15	419	424	26.25	-	-
1958	1555	5,320	June 10, 1958	2.5	305	305	1.39	18.86	234	234	14.47	-	-
1959	1625	4,120	Jan. 21, 1959	2.0	212	212	.968	13.19	196	196	12.14	-	-
1960	1705	1,700	Feb. 11, 1960	1.0	147	147	.671	9.10	-	-	-	-	-

a Adjusted for change in contents in Morse Reservoir.

3510. White River near Nora, Ind.

Location--Lat 39°54'35" (revised), 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 1960. 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--31 years (1929-60), 1,088 cfs.

Extremes--1929-60: 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--Flow slightly regulated by Morse Reservoir beginning Dec. 9, 1955. Records of water temperatures for the period June 1954 to May 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	414	1,474	2,317	2,264	3,626	1,947	2,483	1,164	482	704	187	147	1,419
1952	154	320	1,467	3,182	2,582	3,109	2,307	1,218	747	301	243	521	1,343
1953	228	359	840	1,111	933	2,753	1,086	1,981	601	1,016	372	150	957
1954	134	156	186	310	367	733	1,291	442	399	184	161	86.9	370
1955	410	248	439	1,885	1,101	2,204	1,267	558	671	697	228	207	825
1956	933	2,282	667	297	2,213	1,329	1,435	2,167	1,515	692	356	182	1,165
1957	120	154	325	885	1,302	876	5,399	2,662	4,041	2,538	645	551	1,617
1958	687	1,147	3,794	1,113	587	972	842	1,100	6,093	1,599	1,701	514	1,683
1959	412	1,196	697	2,752	3,434	1,926	2,445	1,923	540	296	195	165	1,317
1960	357	551	855	1,402	2,194	1,138	961	661	684	939	292	159	845

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.40	1.37	2.23	2.18	3.15	1.87	2.31	1.12	0.45	0.68	0.18	0.14	16.08
1952	.15	.30	1.41	3.06	2.32	2.99	2.14	1.17	.69	.29	.23	.48	15.23
1953	.22	.33	.81	1.07	.81	2.64	1.01	1.90	.56	.98	.36	.14	10.83
1954	.13	.14	.18	.30	.32	.70	1.20	.42	.37	.18	.15	.08	4.17
1955	.59	.23	.42	1.81	.96	2.12	1.18	.52	.62	.67	.22	.19	9.33
1956	.90	2.12	.64	.29	1.98	1.28	1.34	2.09	1.41	.67	.34	.17	13.23
1957	.12	.14	.31	.85	1.14	.84	5.02	2.56	3.76	2.44	.62	.51	18.31
1958	.66	1.07	3.64	1.07	.51	.95	.78	1.06	5.67	1.53	1.64	.48	19.04
1959	.40	1.11	.67	2.64	2.98	1.84	2.28	1.84	.50	.29	.19	.15	14.88
1960	.34	.51	.82	1.35	1.97	1.09	.89	.64	.64	.90	.28	.15	9.58

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2,265	25.64
1951	1205	14,700	Feb. 23, 1951	132	1,419	1.18	16.08	1,230	13.94
1952	1235	12,700	Mar. 13, 1952	111	1,343	1.12	15.23	1,299	14.73
1953	1275	9,740	Mar. 5, 1953	118	957	.798	10.83	877	9.92
1954	1335	3,050	Apr. 6, 1954	87	370	.308	4.17	422	4.76
1955	1385	8,830	Jan. 8, 1955	83	825	.688	9.33	1,056	11.94
1956	1435	12,000	May 29, 1956	126	1,165	.971	13.23	892	10.12
1957	1505	30,400	June 30, 1957	98	1,617	1.35	18.31	2,042	23.11
1958	1555	27,000	June 15, 1958	245	1,683	1.40	19.04	1,401	15.85
1959	1625	15,200	Jan. 24, 1959	124	1,317	1.10	14.88	1,273	14.37
1960	1705	8,040	Feb. 12, 1960	128	845	.704	9.58	-	-

3515. Fall Creek near Fortville, Ind.

Location.--Lat 39°57'15", long 85°52'05" (revised), 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 1960.

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.--19 years (1941-60), 170 cfs.

Extremes.--1941-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	59.2	216	293	325	577	294	398	156	86.3	132	36.2	25.5	214
1952	30.3	62.1	192	337	346	388	341	123	76.4	37.6	26.7	67.8	168
1953	36.0	46.9	98.9	115	95.8	268	109	270	74.2	230	60.4	24.2	120
1954	25.9	32.2	38.6	55.2	71.2	154	264	77.2	41.7	34.7	33.3	15.6	70.1
1955	44.4	38.0	62.9	190	157	317	150	71.4	102	53.2	23.4	36.6	104
1956	127	338	104	58.3	442	191	293	350	163	62.4	31.7	23.1	180
1957	23.8	30.8	71.8	117	133	93.2	616	399	711	199	68.1	55.9	209
1958	79.8	142	552	189	101	133	109	274	888	363	406	84.9	278
1959	68.3	139	102	423	494	278	254	287	98.5	54.7	42.0	31.4	187
1960	90.6	117	163	256	355	176	147	145	142	113	57.7	35.0	149

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.40	1.40	1.96	2.18	3.49	1.97	2.58	1.04	0.56	0.88	0.24	0.17	16.87
1952	.20	.40	1.29	2.26	2.17	2.60	2.21	.82	.50	.25	.18	.44	13.32
1953	.24	.30	.66	.77	.58	1.80	.71	1.81	.48	1.54	.40	.16	9.45
1954	.17	.21	.26	.37	.43	1.03	1.71	.52	.27	.25	.22	.10	5.52
1955	.30	.25	.42	1.27	.95	2.12	.97	.48	.66	.56	.16	.24	8.18
1956	.85	2.20	.70	.39	2.77	1.28	1.90	2.34	1.06	.42	.21	.15	14.27
1957	.16	.20	.48	.78	.80	.62	3.99	2.68	4.61	1.34	.46	.36	16.48
1958	.53	.92	3.70	1.27	.61	.89	.71	1.83	5.76	2.43	2.72	.55	21.92
1959	.46	.90	.68	2.84	2.99	1.87	1.65	1.92	.64	.37	.28	.20	14.80
1960	.61	.76	1.09	1.72	2.22	1.18	.95	.97	.92	.76	.39	.23	11.80

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	329	25.94
1951	1205	4,250	Feb. 22, 1951	21	214	1.24	16.87	190	15.00	
1952	1235	2,000	Jan. 27, 1952	21	168	.977	13.32	160	12.63	
1953	1275	3,850	July 6, 1953	21	120	.698	9.45	113	8.89	
1954	1335	1,140	Mar. 30, 1954	13	70.1	.408	5.52	74.2	5.85	
1955	1365	1,260	Jan. 6, 1955	11	104	.605	8.18	139	10.96	
1956	1435	3,130	Feb. 26, 1956	18	180	1.05	14.27	144	11.36	
1957	1505	3,430	June 29, 1957	18	209	1.22	16.48	264	20.79	
1958	1555	5,040	June 14, 1958	32	278	1.62	21.92	239	18.81	
1959	1625	3,100	Jan. 22, 1959	25	187	1.09	14.80	193	15.22	
1960	1705	1,790	Feb. 11, 1960	30	149	.866	11.80	-	-	

3520. Lawrence Creek at Fort Benjamin Harrison, Ind.

Location.--Lat 39°52'09", long 86°01'25", in S $\frac{1}{2}$ 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 1960.

Gage.--Water-stage recorder. Datum of gage is 749.10 ft above mean sea level, datum of 1929.

Average discharge.--7 years (1952-56, 1957-60), 4.86 cfs.

Extremes.--1952-56, 1957-60: 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.--City of Lawrence discharges effluent from sewage treatment plant into creek above gage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	7.73	3.21	9.38	2.01	0.78	2.39	-
1953	1.30	1.77	3.72	4.17	3.14	10.6	2.79	8.34	1.94	3.71	1.26	.48	3.63
1954	.49	.71	1.39	2.70	4.79	6.73	7.91	.64	.92	.63	.87	.47	2.33
1955	1.45	.97	1.45	2.26	3.59	5.89	2.83	1.82	2.90	3.62	1.85	1.88	2.54
1956	8.50	13.6	2.97	1.93	14.8	4.96	9.28	25.1	3.95	1.91	1.33	.85	7.40
1957	-	-	-	-	-	-	-	-	-	-	-	-	-
1958	2.55	5.56	18.1	4.50	2.04	3.76	3.84	7.72	16.5	18.4	11.3	2.29	8.11
1959	1.68	4.63	2.57	10.8	15.1	7.28	6.74	3.93	1.95	3.20	2.35	1.89	5.11
1960	4.49	4.32	4.98	6.18	8.02	4.06	3.33	6.25	6.44	6.52	2.86	1.82	4.93

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1235	418	June 12, 1952	-	-	-	-	-	-
1953	1275	355	May 22, 1953	0.2	3.63	-	-	3.28	-
1954	1335	340	Apr. 5, 1954	.2	2.33	-	-	2.44	-
1955	1385	150	June 10, 1955	.4	2.54	-	-	4.30	-
1956	1435	2,650	May 28, 1956	.4	7.40	-	-	-	-
1957	-	-	-	-	-	-	-	-	-
1958	1555	1,080	June 10, 1958	.7	8.11	-	-	6.64	-
1959	1625	940	Jan. 21, 1959	.7	5.11	-	-	5.53	-
1960	1705	550	July 13, Aug. 3	.8	4.93	-	-	-	-

Note.--Figures of discharge per square mile and runoff in inches, previously published in some water-supply papers, may be in error because of inflow from sewage treatment plant. Those figures are not published herein.

3522. Mud Creek at Indianapolis, Ind.

Location.--Lat 39°53'30", long 86°00'57", in NE $\frac{1}{4}$ sec.25, T.17 N., R.4 E., on left bank at downstream side of Lantern Road Bridge at Indianapolis, 0.2 mile 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 1960.

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).

Extremes.--1958-60: Maximum discharge, 1,500 cfs June 10, 1958 (gage height, 8.36 ft); minimum, 1.8 cfs Aug. 23, Oct. 4, 1959, Sept. 25, 26, 1960; minimum gage height, 1.74 ft Aug. 23, 1959.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	224	102	125	9.95	-
1959	7.85	46.5	22.7	90.5	139	62.8	58.8	46.5	19.2	7.61	3.55	2.46	41.6
1960	6.29	18.6	35.3	66.7	87.1	39.6	28.0	18.9	24.1	47.0	6.52	2.15	31.6

WABASH RIVER BASIN

Monthly and yearly runoff, in inches, of Mud Creek at Indianapolis, Ind.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	-	5.88	2.77	3.39	0.28	-
1959	0.21	1.22	0.62	2.46	3.40	1.71	1.54	1.26	.50	.21	.10	.06	13.29
1960	.17	.49	.96	1.81	2.21	1.07	.74	.51	.63	1.28	.18	.06	10.11

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1958	1555	1,500	June 10, 1958	-	-	-	-	-	-
1959	1625	1,130	Feb. 10, 1959	2.0	41.6	0.979	13.29	40.2	12.86
1960	1705	425	Feb. 10, 1960	1.8	51.6	.744	10.11	-	-

3525. Fall Creek at Millersville, Ind.

Location (revised).--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, 8.5 miles upstream from mouth.

Drainage area.--313 sq mi.

Records available.--October 1929 to September 1960. Monthly discharge only for some periods, published in WSP 1305. Daily gage heights from July 1925 to September 1926 are available in the Indianapolis district office of the Geological Survey.

Gage.--Water-stage recorder. Datum of gage is 722.16 ft above mean sea level, datum of 1929. July 1925 to September 1926, chain gage at same site and datum.

Average discharge.--31 years (1929-60), 274 cfs (unadjusted).

Extremes.--1929-60: 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.--Flow regulated by Geist Reservoir, 8.5 miles upstream, since January 1943 (capacity, 6,900,000,000 gal).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	82.3	456	521	611	1,024	475	607	248	123	232	73.2	55.2	371
1952	54.0	73.6	371	653	610	697	599	221	262	94.8	76.5	78.8	313
1953	69.2	62.0	176	245	194	571	198	526	141	496	130	55.5	240
1954	45.0	45.2	45.2	56.9	124	253	546	114	73.6	56.5	46.1	44.1	120
1955	40.9	41.5	45.7	213	212	518	253	118	175	127	64.8	64.9	156
1956	150	600	188	90.4	845	341	494	906	293	130	66.1	51.2	343
1957	49.7	49.4	63.2	208	266	166	1,158	637	1,107	363	112	72.3	352
1958	126	251	1,025	329	143	220	196	473	1,449	731	690	116	482
1959	945	271	170	728	894	476	421	449	179	90.3	69.3	63.7	322
1960	97.6	203	308	456	629	296	239	228	254	252	80.1	69.7	258

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	605	-
1951	1205	5,150	Feb. 22, 1951	45	371	-	-	325	-
1952	1235	3,020	Jan. 28, 1952	44	313	-	-	297	-
1953	1275	5,130	July 7, 1953	41	240	-	-	226	-
1954	1335	2,550	Apr. 5, 1954	38	120	-	-	120	-
1955	1385	1,300	Mar. 2, 1955	36	156	-	-	223	-
1956	1435	12,900	May 28, 1956	44	343	1.10	14.93	279	12.12
1957	1505	4,590	June 30, 1957	40	352	1.12	15.20	457	19.83
1958	1555	7,450	June 11, 1958	46	482	1.54	20.89	408	17.69
1959	1625	5,770	Jan. 22, 1959	50	322	1.03	13.96	328	14.23
1960	1705	2,470	Feb. 10, 1960	53	258	.824	11.22	-	-

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 1960. 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.--31 years (1904-5, 1930-60), 1,405 cfs (adjusted for diversion and change in contents since October 1955; includes sewage effluent, April 1930 to September 1931).

Extremes.--1904-6, 1930-60: Maximum discharge, 37,200 cfs May 18, 1943; maximum gage height, 21.57 ft Jan. 16, 1937; minimum discharge, 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.--Indianapolis Water Co. diverts water for municipal water supply 12 miles above gage, and returns most of it to river at sanitation plant 3 miles below gage. 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).

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	454	1,745	3,030	2,995	4,944	2,417	3,135	1,390	663	847	237	152	1,822
1952	216	512	2,181	4,156	3,458	4,203	3,091	1,509	1,385	425	301	593	1,832
1953	221	385	1,007	1,393	1,203	3,504	1,350	2,728	802	1,461	505	165	1,233
1954	125	149	178	348	557	1,089	2,073	557	438	158	183	78.8	492
1955	412	223	424	1,987	1,343	2,910	1,770	697	923	851	236	280	1,004
1956	1,143	3,056	927	396	3,406	1,871	2,096	3,535	2,139	947	426	208	1,668
1957	1,132	165	450	1,146	1,617	1,158	7,037	3,565	5,093	3,149	883	584	2,073
1958	787	1,550	5,149	1,558	774	1,318	1,101	1,777	7,910	2,574	2,704	634	2,327
1959	482	1,502	887	3,494	4,664	2,590	2,953	2,442	708	315	202	161	1,680
1960	369	577	1,102	1,884	2,969	1,442	1,241	898	1,044	1,312	277	145	1,099

Monthly and yearly runoff, in inches (adjusted)^{a/}

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	-	-	-	-	-
1956	0.92	2.16	0.76	0.36	2.51	1.38	1.51	2.58	1.52	0.74	0.28	0.17	14.89
1957	.15	.18	.50	.94	1.11	.87	4.90	2.59	3.62	2.26	.71	.47	18.32
1958	.64	1.13	3.72	1.16	.56	1.00	.82	1.33	5.50	1.90	1.99	.51	20.26
1959	.42	1.10	.69	2.56	3.04	1.90	2.11	1.80	.57	.32	.22	.18	14.91
1960	.38	.47	.86	1.41	2.03	1.12	.91	.72	.90	1.01	.29	.16	10.16

^a Adjusted for diversion and for regulation by Morse and Geist Reservoirs.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^{a/}			Observed		Adjusted ^{a/}
		Momentary maximum		Minimum day	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date								
1950	-	-	-	-	-	-	-	-	2,985	-	-
1951	1205	17,200	Feb. 23, 1951	107	1,822	-	-	-	1,628	-	-
1952	1235	17,500	Mar. 12, 1952	88	1,832	-	-	-	1,722	-	-
1953	1275	11,800	Mar. 4, 1953	94	1,233	-	-	-	1,135	-	-
1954	1335	6,340	Apr. 6, 1954	42	492	-	-	-	543	-	-
1955	1385	9,800	Jan. 8, 1955	42	1,004	-	-	-	1,342	1,448	11.20
1956	1435	31,200	May 28, 1956	86	1,668	1,782	1.10	14.89	1,305	1,423	11.88
1957	1505	28,000	June 30, 1957	84	2,073	2,195	1.35	18.32	2,642	2,753	22.96
1958	1555	30,500	June 15, 1958	199	2,327	2,429	1.49	20.26	1,935	2,036	16.98
1959	1625	17,800	Jan. 22, 1959	98	1,680	1,788	1.10	14.91	1,612	1,726	14.41
1960	1705	10,000	Feb. 11, 1960	106	1,099	1,215	.747	10.16	-	-	-

^a Adjusted for diversion and for change in contents in Morse and Geist Reservoirs.

3531.2. Pleasant Run at Arlington Avenue, at Indianapolis, Ind.

Location.--Lat 39°46'33", long 86°03'50", in NW $\frac{1}{4}$ 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 1960.

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.--1959-60: 535 cfs July 13, 1960 (gage height, 6.48 ft); no flow for many days. Flood in May 1956 reached a stage of 16.0 ft, from information by local resident.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	9.88	13.8	4.55	3.56	10.6	12.5	10.8	1.46	0.983	-

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	-	1.49	1.94	0.68	0.52	1.59	1.82	1.63	0.22	0.14	-

3531.6. Pleasant Run at Brookville Road, at Indianapolis, Ind.

Location.--Lat 39°45'52", long 86°05'43", in NW $\frac{1}{4}$ sec.9, T.15 N., R.4 E., on right bank at downstream side of Brookville Road Bridge in Indianapolis, 2.2 miles downstream from Arlington Avenue.

Drainage area.--10.3 sq mi.

Records available.--November 1959 to September 1960.

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.--1959-60: 860 cfs (revised) July 13, 1959 (gage height, 6.39 ft); no flow for many days.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	9.15	9.36	15.0	4.84	4.47	*10.8	*16.8	*15.4	2.29	1.53	-

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	-	-	1.02	1.05	1.58	0.54	0.48	*1.21	*1.82	*1.73	*0.26	0.17	-

* Revised.

3532. Eagle Creek at Zionsville, Ind.

Location.--Lat 39°56'56", long 86°15'22", in NW $\frac{1}{4}$ sec.1, T.17 N., R.2 E., on downstream side of bridge on State Highway 384 at Zionsville, 200 ft upstream from Long Branch.

Drainage area.--102 sq mi.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 816.85 ft above mean sea level, datum of 1929.

Extremes.--1957-60: Maximum discharge, 9,100 cfs Aug. 2, 1958 (gage height, 13.22 ft); no flow for several days in September 1959.

Flood of June 28, 1957, reached a stage of 19.20 ft, from floodmark.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	34.4	183	413	87.1	47.1	70.5	37.4	84.1	523	164	444	39.6	180
1959	24.3	92.2	49.0	281	296	173	209	59.9	27.4	10.6	2.16	.99	101
1960	8.24	30.7	68.4	112	208	134	74.3	42.8	101	134	6.52	1.81	76.4

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	0.61	2.00	4.67	0.98	0.48	0.80	0.41	0.95	5.72	1.86	5.02	0.43	23.93
1959	.27	1.01	.55	3.17	3.02	1.96	2.29	.68	.50	.12	.02	.01	13.40
1960	.09	.34	.77	1.27	2.20	1.51	.81	.48	1.10	1.51	.07	.02	10.17

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1958	1555	9,100	Aug. 2, 1958	4.2	180	1.76	23.93	139	18.48
1959	1625	6,260	Jan. 21, 1959	0	101	.990	13.40	95.9	12.77
1960	1705	2,570	July 13, 1960	.6	76.4	.749	10.17	-	-

3535. Eagle Creek at Indianapolis, Ind..

Location (revised).--Lat 39°46'33", long 86°15'01", in NE $\frac{1}{4}$ sec.1, T.15 N., R.2 E., on right bank at downstream side of bridge on Lynhurst Drive, approximately 600 ft south of intersection of West 10th Street and Lynhurst Drive, 0.5 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 mi.

Records available.--November 1938 to September 1960.

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 Lynhurst, 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.--21 years (1939-60), 155 cfs.

Extremes.--1938-60: 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 in March 1913 reached a stage of 16.0 ft, from information by local residents.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	27.3	210	308	346	535	190	249	132	46.5	113	10.1	7.03	179
1952	9.84	58.4	260	450	344	471	330	167	257	35.2	15.1	103	208
1953	12.3	30.2	108	146	104	438	140	343	53.3	124	43.6	4.44	130
1954	3.86	5.01	7.55	29.0	36.8	105	267	56.1	41.0	4.53	2.43	1.47	46.4
1955	4.75	3.89	24.5	187	158	290	185	62.3	66.4	191	13.2	19.2	100
1956	125	307	97.1	36.5	461	192	175	627	292	143	18.2	5.64	205
1957	5.41	9.84	125	198	258	129	860	421	904	229	71.8	24.8	268
1958	71.1	264	730	135	71.1	121	76.0	182	784	274	490	73.6	274
1959	43.2	181	99.3	361	436	258	288	116	65.0	30.8	11.1	7.87	156
1960	22.5	49.3	105	171	262	158	117	85.7	139	142	18.6	7.87	106

WABASH RIVER BASIN

Monthly and yearly runoff, in inches, of Eagle Creek at Indianapolis, Ind.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.18	1.31	1.98	2.23	3.11	1.22	1.55	0.85	0.29	0.73	0.06	0.04	13.55
1952	.06	.36	1.68	2.90	2.08	3.03	2.06	1.08	1.60	.23	.10	.64	15.82
1953	.08	.19	.69	.94	.61	2.82	.87	2.21	.33	.80	.28	.03	9.85
1954	.03	.03	.05	.19	.21	.68	1.66	.36	.26	.03	.02	.009	3.53
1955	.03	.02	.16	1.20	.92	1.87	1.15	.40	.41	1.23	.09	.12	7.60
1956	.80	1.92	.62	.24	2.78	1.23	1.09	4.04	1.82	.92	.12	.04	15.62
1957	.03	.06	.80	1.28	1.50	.82	5.36	2.71	5.63	1.48	.46	.16	20.29
1958	.46	1.64	4.70	.87	.41	.78	.47	1.18	4.89	1.76	3.16	.46	20.78
1959	.28	1.13	.64	2.33	2.54	1.66	1.80	.75	.40	.20	.07	.05	11.85
1960	.15	.31	.68	1.10	1.58	1.02	.73	.55	.87	.91	.12	.05	8.07

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	323	24.53
1951	1205	3,950	Feb. 21, 1951	4.7	179	1.00	13.55	161	12.18
1952	1235	5,520	Jan. 27, 1952	3.5	208	1.16	15.82	193	14.68
1953	1275	4,920	Mar. 4, 1953†	1.8	130	.726	9.85	119	9.00
1954	1335	2,250	Apr. 6, 1954	1.2	46.4	.259	3.53	47.8	3.63
1955	1385	2,650	July 16, 1955	1.6	100	.559	7.60	142	10.73
1956	1435	9,920	May 28, 1956	3.2	205	1.15	15.62	173	13.17
1957	1505	28,800	June 28, 1957	3.2	268	1.50	20.29	345	26.20
1958	1555, 1625	8,560	Aug. 3, 1958	8.5	274	1.53	20.78	211	16.03
1959	1625	6,890	Jan. 22, 1959	5.4	158	.872	11.85	144	10.94
1960	1705	1,870	June 23, 1960	5.8	106	.592	8.07	-	-

† Corrected.

3536. Little Eagle Creek at Speedway, Ind.

Location.--Lat 39°47'15", long 86°13'41", in NW $\frac{1}{4}$ 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 1960.

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.--1959-60: Maximum discharge, 460 cfs June 23, 1960 (gage height, 3.95 ft); no flow for many days.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	11.9	8.64	17.7	26.3	32.5	18.9	10.2	8.94	24.7	14.2	1.53	0.54	14.6

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1960	0.74	0.52	1.10	1.63	1.89	1.18	0.61	0.55	1.48	0.88	0.09	0.03	10.70

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 bridge on U.S. Highway 36 in Danville, 0.5 mile upstream from unnamed tributary from left.

Drainage area.--28.9 sq mi.

Records available.--May 1958 to September 1960.

Gage.--Wire-weight gage. Crest-stage gage since Dec. 10, 1959. Datum of gage is 828.83 ft above mean sea level, datum of 1929.

Extremes.--1958-60: Maximum discharge, 2,050 cfs Jan. 21, 1959 (gage height, 8.50 ft, from graph based on gage readings); minimum daily, 0.1 cfs many days in 1959-60. Maximum stage known, 16.0 ft June 28, 1957, from floodmarks (discharge, 6,660 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	23.0	40.6	28.7	31.4	5.16	-
1959	4.66	29.5	14.4	80.0	91.9	42.4	46.4	16.0	8.15	1.60	16.1	.21	28.9
1960	11.2	5.80	15.3	29.4	54.8	46.9	26.4	29.6	55.3	13.5	.47	.37	23.9

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1958	-	-	-	-	-	-	-	0.92	1.56	1.14	1.26	0.20	-
1959	0.19	1.14	0.59	3.19	3.31	1.70	1.80	.64	.51	.06	.64	.008	13.56
1960	.45	.22	.61	1.18	2.05	1.87	1.02	1.18	2.13	.53	.02	.01	11.27

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1958	1625	780	July 31, 1958	-	-	-	-	-	-
1959	1625	2,050	Jan. 21, 1959	0.1	28.9	1.00	13.56	27.5	12.94
1960	1705	1,730	Mar. 27, 1960	.1	23.9	.827	11.27	-	-

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 1960.

Gage.--Water-stage recorder. Datum of gage is 644.64 ft above mean sea level, datum of 1929.

Extremes.--1957-60: Maximum discharge, 11,400 cfs Jan. 21, 1959, June 23, 1960; maximum gage height, 21.21 ft June 23, 1960; minimum discharge, 6.3 cfs Sept. 26, 1959; minimum gage height, 7.84 ft Sept. 8, 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.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	-	-	29.1	-
1958	72.8	279	778	179	82.0	117	107	186	309	249	283	53.4	226
1959	52.5	188	114	446	714	400	329	163	84.9	51.9	66.5	16.4	215
1960	88.0	104	203	267	428	226	143	162	476	110	23.3	15.1	186

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	-	-	-	-	-	-	0.15	-
1958	0.40	1.47	4.23	0.97	0.40	0.64	0.56	1.01	1.63	1.35	1.53	.28	14.47
1959	.29	.99	.62	2.42	3.51	2.18	1.73	.89	.45	.28	1.36	.09	13.81
1960	.48	.55	1.10	1.45	2.18	1.23	.75	.88	2.51	.60	.13	.08	11.94

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1957	1555	-	-	-	-	-	-	-	-
1958	1555	7,580	Dec. 20, 1957	13	226	1.07	14.47	161	10.27
1959	1625	11,400	Jan. 21, 1959	7.6	215	1.01	13.81	219	14.04
1960	1705	11,400	June 23, 1960	9.2	186	.877	11.94	-	-

3540. White River near Centerton, Ind.

Location.--Lat 39°30'02", long 86°24'24", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3, T.12 N., R.1 E., on right bank three-eighths 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 1960. 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 gage heights from July 1925 to September 1930 are available in the Indianapolis district office of the Geological Survey.

Gage.--Water-stage recorder. Datum of gage is 595.44 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark), levels by Indianapolis Power and Light Co. Prior to March 1932, chain gage at site 8 $\frac{1}{2}$ miles downstream at different datum. November 1946 to July 1953, wire-weight gage three-eighths of a mile upstream at same datum.

Average discharge.--15 years (1930-31, 1946-60), 2,405 cfs (unadjusted).

Extremes.--1930-32, 1946-60: 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.--Flow slightly regulated by Morse and Geist Reservoirs (combined usable capacity, 13,800,000,000 gal). Records of water temperatures for the periods September 1953, December 1953 to April 1956 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	727	3,105	4,537	4,504	6,969	3,738	4,476	2,179	1,261	1,841	520	381	2,825
1952	399	1,166	3,610	5,929	5,535	6,110	4,874	2,329	2,725	971	538	892	2,915
1953	424	586	1,350	1,927	1,758	5,862	2,440	4,095	1,298	2,613	824	352	1,971
1954	298	320	355	645	676	1,577	3,132	933	743	344	349	213	812
1955	526	363	546	2,743	1,916	4,132	2,881	1,279	1,314	1,459	586	569	1,517
1956	1,746	5,089	1,584	757	5,554	2,902	3,288	4,583	3,724	1,897	705	474	2,670
1957	301	370	896	1,786	2,374	1,827	10,170	6,023	6,701	5,859	1,317	877	3,201
1958	1,164	2,428	8,248	2,654	1,351	2,029	1,805	2,740	10,280	3,628	4,241	1,133	3,487
1959	911	2,266	1,615	5,434	7,091	3,997	3,990	3,675	1,318	768	536	369	2,635
1960	764	1,101	1,931	3,016	4,824	2,367	2,093	1,645	2,845	2,009	642	455	1,953

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.34	1.42	2.15	2.13	2.98	1.77	2.05	1.03	0.58	0.87	0.25	0.17	15.74
1952	.19	.53	1.71	2.81	2.45	2.89	2.23	1.10	1.25	1.46	.25	.41	16.28
1953	.20	.27	.64	.91	.75	2.78	1.12	1.94	.59	1.24	.39	.16	10.99
1954	.14	.15	.17	.31	.37	.75	1.44	.44	.34	.16	.16	.10	4.53
1955	.25	.17	.26	1.30	.82	1.96	1.32	.61	.60	.69	.23	.26	8.47
1956	.83	2.33	.75	.36	2.46	1.37	1.51	2.17	1.71	.89	.33	.22	14.93
1957	.14	.17	.42	.85	1.02	.86	4.66	2.85	3.07	2.78	.62	.40	17.84
1958	.55	1.11	3.91	1.26	.58	.96	.83	1.30	4.71	1.72	2.01	.52	19.46
1959	.43	1.04	.76	2.57	3.03	1.89	1.83	1.74	.60	.36	.25	.17	14.67
1960	.36	.50	.91	1.43	2.14	1.12	.96	.78	1.31	.95	.30	.21	10.97

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	4,580	25.53
1951	1205	19,100	Feb. 22, 1951	350	2,885	1.16	15.74	2,559	14.26
1952	1235	17,600	Jan. 28, 1952	298	2,915	1.20	16.28	2,678	14.96
1953	1275	15,800	Mar. 5, 1953	294	1,971	.809	10.99	1,854	10.54
1954	1335	8,600	Apr. 7, 1954	138	812	.333	4.53	851	4.75
1955	1385	9,950	Jan. 9, 1955	140	1,517	.623	8.47	2,097	11.69
1956	1435	35,400	May 29, 1956	304	2,670	1.10	14.93	2,103	11.76
1957	1505	34,700	June 30, 1957	260	3,201	1.31	17.84	4,068	22.68
1958	1555	37,000	June 15, 1958	485	3,487	1.43	19.46	2,889	16.12
1959	1625	26,000	Jan. 22, 23, 1959	265	2,635	1.08	14.67	2,554	14.21
1960	1705	27,000	June 24, 1960	279	1,963	.806	10.97	-	-

3545. Bean Blossom Creek at Bean Blossom, Ind.

Location.--Lat 39°15'45", long 86°14'55", in NW $\frac{1}{4}$ 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 1960.

Gage.--Water-stage recorder. Datum of gage is 673.65 ft above mean sea level, datum of 1929.

Average discharge.--9 years (1951-60), 16.5 cfs (revised).

Extremes.--1951-60: Maximum discharge, 8,140 cfs June 23, 1960 (gage height, 11.78 ft), from rating curve extended above 2,000 cfs on basis of contracted-opening measurement; no flow on many days.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	0.26	10.9	123	63.6	39.8	50.4	42.0	38.2	7.85	0.37	0.05	0.17	31.5
1953	0	.40	3.24	13.1	9.48	36.6	22.5	20.3	.59	.43	.69	.01	8.97
1954	0	0	.28	5.19	4.34	7.55	14.1	10.1	5.13	0	.31	0	3.90
1955	.05	.08	4.62	14.9	26.6	33.3	26.1	5.43	1.76	1.12	0	2.42	9.58
1956	1.84	17.6	3.83	4.69	52.4	21.5	30.1	27.2	29.2	1.72	.19	1.46	15.7
1957	.01	1.19	11.8	22.3	20.9	14.7	64.6	69.7	18.6	8.37	.50	.05	19.4
1958	.32	15.6	77.2	20.6	4.84	16.4	24.3	41.2	58.6	34.7	12.5	4.27	26.0
1959	3.06	17.6	9.69	59.0	56.0	28.2	15.8	14.1	11.6	.09	3.58	8.58	18.7
1960	3.25	11.5	15.2	20.5	32.2	18.1	9.57	7.14	52.9	6.81	.72	0	14.7

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	0.02	0.83	9.71	5.03	2.94	3.98	3.21	3.02	0.60	0.03	0.004	0.01	29.38
1953	0	.03	.26	1.04	.68	2.89	1.72	1.60	.04	.03	.05	.001	8.34
1954	0	0	.02	.41	.31	.60	1.08	.80	.39	0	.02	0	3.63
1955	.004	.006	.36	1.18	1.90	2.63	2.00	.43	.14	.09	0	.19	8.93
1956	.15	1.35	.30	.37	3.87	1.70	2.30	2.14	2.23	.14	.02	.11	14.68
1957	.008	.09	.93	1.76	1.49	1.16	4.93	5.50	1.42	.66	.04	.004	17.99
1958	.03	1.19	6.10	1.63	1.35	1.29	1.85	3.25	4.47	2.74	.99	.33	24.22
1959	.24	1.35	.77	4.66	4.00	2.22	1.20	1.11	.69	.007	.28	.66	17.39
1960	.26	.88	1.20	1.61	2.38	1.43	.73	.56	4.04	.54	.06	0	13.69

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	(a)	5,040	Dec. 7, 1951	0	31.5	2.16	29.38	20.5	19.11
1953	1275,1555	790	Mar. 3, 1953	0	8.97	.614	8.34	8.69	8.07
1954	1335	335	Jan. 26, 1954	0	3.90	.267	3.63	4.20	3.91
1955	1385	700	Mar. 21, 1955	0	9.58	.656	8.93	11.1	10.36
1956	1435,1555	2,250	June 21, 1956	0	15.7	1.08	14.68	14.9	13.91
1957	1505,1555	2,140	May 19, 1957	0	19.4	1.33	17.99	26.1	24.28
1958	1555	2,360	June 13, 1958	0	26.0	1.78	24.22	20.7	19.26
1959	1625	2,600	Jan. 21, 1959	0	18.7	1.28	17.39	18.7	17.37
1960	1705	8,140	June 23, 1960	0	14.7	1.01	13.69	-	-

a 1235, 1555, 1705.

WABASH RIVER BASIN

3550. Bear Creek near Trevlac, Ind.

Location.--Lat 39°16'40", long 86°20'45", in NE $\frac{1}{4}$ sec.30, T.10 N., R.2 E., on left bank 15 ft west of county road 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 1960.

Gage.--Water-stage recorder. Altitude of gage is 640 ft (from topographic map).

Average discharge.--8 years (1952-60), 6.81 cfs.

Extremes.--1952-60: Maximum discharge, 1,830 cfs June 12, 1957 (gage height, 7.62 ft); no flow for many days.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	2.17	0.20	0.03	0.06	1
1953	0.008	0.18	1.23	4.65	3.36	15.3	11.5	15.4	1.11	.98	.03	0	4.41
1954	0	0	.29	3.64	1.53	5.81	11.7	3.94	1.47	0	.05	0	2.36
1955	.10	.28	3.04	7.89	11.7	18.3	20.0	10.3	1.73	.30	0	1.20	6.20
1956	.12	13.4	2.30	1.46	29.6	12.8	13.7	14.5	8.44	1.20	.01	.80	8.07
1957	0	.24	5.03	9.65	9.38	6.91	33.6	20.3	11.1	1.59	.05	.09	8.11
1958	.25	5.72	31.3	7.62	1.28	5.55	8.50	12.3	27.8	8.60	2.85	3.28	9.64
1959	1.09	9.47	5.12	20.4	22.7	16.0	17.6	9.18	2.79	.05	.43	.13	8.66
1960	1.17	3.94	7.36	10.1	16.6	10.1	5.02	9.14	19.1	1.88	.13	.03	7.00

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	0.35	0.03	0.005	0.10	-
1953	0.001	0.03	0.20	0.77	0.50	2.52	1.83	2.53	.02	.16	.005	0	8.57
1954	0	0	.05	.60	.23	.96	1.86	.65	.23	0	.008	0	4.59
1955	.02	.04	.50	1.30	1.74	3.01	3.19	1.70	.28	.05	0	.19	12.02
1956	.02	2.13	.38	.24	4.56	2.11	2.19	2.39	1.35	.20	.002	.13	15.70
1957	0	.04	.85	1.59	1.40	1.14	5.36	3.34	1.77	.26	.008	.01	15.75
1958	.04	.91	5.15	1.26	.19	.91	1.35	2.03	4.45	1.42	.47	.52	18.69
1959	.18	1.51	.84	3.36	3.37	2.64	2.80	1.51	.45	.008	.07	.02	16.76
1960	.19	.63	1.21	1.66	2.56	1.66	.80	1.51	3.05	.31	.02	.005	13.60

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1235,1555	466	May 24, 1952	-	-	-	-	-	-
1953	1275	252	Mar. 3, 1953	0	4.41	0.630	8.57	4.32	8.39
1954	1335,1555	258	Jan. 26, 1954	0	2.36	.337	4.59	2.63	5.10
1955	1385,1555	670	May 28, 1955	0	6.20	.886	12.02	7.22	13.99
1956	1435,1555	1,580	Nov. 16, 1955	0	8.07	1.15	15.70	7.21	14.04
1957	1505,1555	1,830	June 12, 1957	0	8.11	1.16	15.75	10.8	20.98
1958	1555	940	June 13, 1958	0	9.64	1.39	18.68	7.79	15.11
1959	1626	1,100	Jan. 21, 1959	0	8.66	1.24	16.76	8.40	16.26
1960	1705	1,520	June 23, 1960	0	7.00	1.00	13.60	-	-

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 1960.

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.--14 years (1946-60), 123 cfs (unadjusted).

Extremes.--1946-60: 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.--Flow regulated since April 1953 by Lake Lemon, formerly known as Bloomington Reservoir (capacity, 4,640,000,000 gal) 8.1 miles upstream.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.98	235	214	296	323	236	237	135	66.8	33.9	3.20	1.63	147
1952	1.33	69.7	477	298	246	294	280	181	69.4	5.39	1.27	1.34	161
1953	.25	1.23	17.9	77.9	57.2	147	93.7	93.3	8.66	31.7	38.3	19.7	47.0
1954	14.8	13.3	14.1	15.0	8.51	20.7	45.2	56.6	28.8	11.2	8.60	7.94	20.5
1955	8.56	11.9	23.5	47.2	130	244	216	98.2	32.1	17.3	13.0	19.4	71.3
1956	20.5	127	33.5	20.6	314	138	163	165	123	23.7	14.9	14.7	95.3
1957	13.2	17.0	30.6	100	113	92.9	453	430	170	49.8	14.5	16.5	125
1958	19.1	40.8	533	119	32.5	89.5	141	251	403	176	81.2	44.4	162
1959	66.1	89.3	72.1	326	406	208	145	127	54.9	18.9	24.7	22.1	128
1960	25.9	37.0	56.0	127	247	107	68.1	100	399	44.9	17.4	24.0	103

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.06	2.62	2.47	3.41	3.36	2.72	2.64	1.55	0.75	0.39	0.04	0.02	20.03
1952	.02	.78	5.50	3.44	2.65	3.39	3.12	2.09	.77	.06	.01	.004	21.85

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	264	35.83
1951	1205	3,700	Feb. 21, 1951	1.1	147	1.47	20.03	156	21.18
1952	1235	5,100	May 24, 1952	.1	161	1.61	21.83	116	-
1953	1275	1,320	Mar. 4, 1953	0	49.0	-	-	-	50.9
1954	1335	361	May 2, 1954	2.7	20.5	-	-	-	20.6
1955	1385	1,390	Apr. 13, 1955	7.5	71.3	-	-	82.7	11.23
1956	1435	1,740	May 28, 1956	8.6	95.3	.953	12.97	85.4	11.62
1957	1505	4,270	May 22, 1957	1.1	125	1.25	16.93	170	23.06
1958	1555	3,040	June 14, 1958	9.6	162	1.62	21.97	131	17.75
1959	1625	5,480	Jan. 21, 1959	3.6	128	1.28	17.42	119	16.19
1960	1705	8,530	June 23, 1960	2.6	103	1.03	14.08	-	-

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 1960. 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.--35 years (1925-60), 3,061 cfs (unadjusted).

Extremes.--1925-60: 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.--Flow slightly regulated by three reservoirs above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,084	4,435	5,862	6,238	8,818	5,046	5,688	2,656	1,435	1,988	690	488	3,668
1952	514	1,722	5,060	7,398	7,022	7,706	6,837	3,137	3,753	1,368	697	1,043	3,843
1953	545	664	1,580	2,405	2,219	6,957	3,307	4,649	1,628	2,798	1,015	445	2,361
1954	364	376	399	751	973	1,755	3,679	1,244	931	448	401	287	963
1955	600	422	608	3,219	2,283	5,337	3,811	1,821	1,589	1,593	557	571	1,867
1956	1,990	6,048	2,178	1,000	6,819	4,160	4,322	4,696	5,378	2,444	825	566	3,342
1957	366	441	1,195	2,375	3,169	2,603	12,230	8,035	6,951	7,849	1,428	978	3,962
1958	1,170	2,983	10,360	3,363	1,645	2,370	2,491	3,780	11,970	4,536	5,911	1,761	4,379
1959	1,186	3,002	2,164	6,614	9,138	5,522	4,812	5,200	2,201	1,015	861	538	3,485
1960	971	1,527	2,383	3,677	5,913	2,727	2,795	2,186	4,553	2,595	837	600	2,548

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.42	1.66	2.27	2.41	3.08	1.95	2.13	1.03	0.54	0.77	0.27	0.18	16.71
1952	.20	.64	1.96	2.86	2.54	2.98	2.56	1.21	1.40	.53	.27	.39	17.54
1953	.21	.25	.61	.93	.78	2.69	1.24	1.80	.61	1.08	.39	.17	10.76
1954	.14	.14	.15	.29	.34	.68	1.37	.48	.35	.17	.16	.11	4.38
1955	.23	.16	.24	1.24	.80	2.06	1.43	.70	.59	.62	.22	.21	8.50
1956	.77	2.26	.84	.39	2.47	1.61	1.62	1.82	2.01	.95	.32	.21	15.27
1957	.14	.17	.46	.92	1.10	1.01	4.57	3.11	2.60	3.03	.55	.37	18.03
1958	.45	1.12	4.01	1.30	.57	.92	.93	1.46	4.48	1.75	2.28	.66	19.93
1959	.46	1.13	.84	2.56	3.20	2.13	1.80	2.01	.82	.39	.33	.20	15.87
1960	.38	.57	.92	1.42	2.14	1.05	1.05	.85	1.71	1.00	.32	.22	11.63

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	5,930	27.02
1951	1205	23,900	Feb. 23, 1951	415	3,668	1.23	16.71	3,528	15.16
1952	1235	26,400	Jan. 28, 1952	378	3,843	1.29	17.54	3,464	15.82
1953	1275	18,800	Mar. 5, 1953	368	2,361	.792	10.76	2,222	10.12
1954	1335	8,650	Apr. 8, 1954	238	963	.323	4.38	1,005	4.58
1955	1385	9,880	Jan. 10, 1955	238	1,867	.627	8.50	2,581	11.76
1956	1435	37,400	May 31, 1956	370	3,342	1.12	15.27	2,662	12.12
1957	1505	37,700	July 1, 1957	320	3,962	1.33	18.03	5,018	22.84
1958	1555	37,000	June 14, 1958	443	4,379	1.47	19.93	3,686	16.78
1959	1625	37,000	Jan. 24, 1959	352	3,485	1.17	15.87	3,364	15.31
1960	1705	34,000	June 25, 1960	445	2,548	.855	11.63	-	-

3575. Big Walnut Creek near Reelsville, Ind.
(Formerly published as Eel River near Reelsville)

Location.--Lat 39°32'11", long 86°58'35", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.28, T.13 N., R.5 W., on left bank at highway bridge, 1 $\frac{1}{2}$ miles southwest of Reelsville and 3 miles upstream from Mill Creek.

Drainage area.--338 sq mi.

Records available.--July 1949 to September 1960. 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.--11 years (1949-60), 360 cfs.

Extremes.--1949-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	124	531	703	665	1,025	484	504	361	213	435	73.0	29.9	425
1952	59.9	193	533	726	624	1,032	962	303	791	140	43.2	51.6	453
1953	37.7	65.9	59.5	139	194	860	371	368	136	257	58.5	14.5	214
1954	12.3	16.3	25.2	70.2	77.1	187	301	124	65.6	19.4	11.8	4.76	76.0
1955	31.2	18.3	53.2	292	275	456	412	186	148	102	25.6	48.2	170
1956	102	263	131	53.6	923	354	547	497	447	320	46.1	21.1	305
1957	17.0	40.9	256	376	406	260	1,459	1,382	2,183	541	147	49.2	591
1958	93.7	441	1,529	329	138	171	183	322	795	366	570	120	424
1959	84.3	261	171	1,168	1,116	684	523	260	144	69.0	102	20.7	379
1960	52.7	97.2	223	390	654	313	278	334	789	171	46.0	20.8	279

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.42	1.75	2.40	2.27	3.16	1.65	1.67	1.23	0.70	1.49	0.25	0.10	17.09
1952	.20	.64	1.82	2.48	1.99	3.52	3.18	1.03	2.61	.48	.15	.17	18.27
1953	.13	.22	.20	.47	.60	2.83	1.22	1.26	.45	.88	.20	.05	8.61
1954	.04	.05	.09	.24	.24	.64	.99	.42	.22	.07	.04	.02	3.06
1955	.11	.06	.18	1.00	.85	1.56	1.36	.63	.49	.35	.09	.16	6.84
1956	.35	.87	.45	.18	2.94	1.21	1.81	1.70	1.47	1.09	.16	.07	12.30
1957	.06	.14	.88	1.28	1.25	.89	4.82	4.72	7.21	1.84	.50	.16	23.75
1958	.32	1.45	5.21	1.12	.42	.58	.60	1.10	2.62	1.24	1.95	.40	17.01
1959	.29	.86	.58	3.99	3.44	2.33	1.73	.89	.48	.24	.35	.07	15.25
1960	.18	.32	.76	1.33	2.08	1.07	.92	1.14	2.60	.58	.16	.07	11.21

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1950	-	-	-	-	-	-	-	718	28.82		
1951	1205	6,040	July 17, 1951	17	425	1.26	17.09	378	15.19		
1952	1235	15,700	June 22, 1952	17	453	1.34	18.27	401	16.16		
1953	1275	8,500	Mar. 4, 1953	12	214	.633	8.61	205	8.24		
1954	1335	1,250	Apr. 6, 1954	1.4	76.0	.225	3.06	80.2	3.23		
1955	1385	3,030	Jan. 6, 1955	4.0	170	.503	6.84	203	8.16		
1956	1435	9,300	Feb. 25, 1956	14	305	.902	12.30	291	11.71		
1957	1505	30,700	June 28, 1957	8.6	591	1.75	23.75	738	29.65		
1958	1555	13,800	Dec. 20, 1957	20	424	1.25	17.01	293	11.76		
1959	1625	14,200	Jan. 21, 1959	10	379	1.12	15.25	367	14.78		
1960	1705	16,000	June 23, 1960	14	279	.825	11.21	-	-		

3580. Mill Creek near Cataract, Ind.

Location.--Lat 39°26', long 86°46', in SE $\frac{1}{4}$ 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 1960.

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.--11 years (1949-60), 268 cfs.

Extremes.--1949-60: Maximum discharge, 11,400 cfs June 24, 1960 (gage height, 22.58 ft); minimum, 0.1 cfs Sept. 3, 6, 7, 28, 29, 1954.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	44.5	468	527	557	759	322	361	179	151	214	20.8	11.7	298
1952	67.7	430	678	762	457	766	549	166	773	79.9	14.9	50.2	399
1953	5.86	11.3	74.9	157	160	693	370	180	103	325	26.5	4.41	177
1954	4.94	6.48	8.21	44.7	41.1	111	148	35.1	38.1	6.84	3.72	.91	37.3
1955	14.5	5.16	13.1	169	193	339	431	155	91.4	75.4	18.1	128	135
1956	245	793	130	37.3	857	230	382	351	341	172	12.9	10.6	293
1957	4.44	12.1	135	253	298	170	1,009	745	1,120	342	80.3	15.8	348
1958	37.2	285	1,135	205	61.2	125	134	242	625	176	326	153	294
1959	93.1	313	129	496	797	456	434	260	182	27.9	71.8	35.2	271
1960	89.3	171	281	301	479	273	123	188	1,024	55.9	39.9	13.4	251

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.21	2.16	2.52	2.67	3.28	1.54	1.67	0.86	0.70	1.03	0.10	0.05	16.79
1952	.32	1.99	3.24	3.65	2.04	3.66	2.54	.79	3.58	.38	.07	.23	22.49
1953	.03	.05	.36	.75	.69	3.32	1.71	.86	.48	1.56	.13	.02	9.96
1954	.02	.03	.04	.21	.18	1.53	.69	.17	.18	.03	.02	.004	2.10
1955	.07	.02	.06	.81	.83	1.63	2.00	.74	.42	.36	.09	.59	7.62
1956	1.18	3.67	.62	.18	3.84	1.10	1.77	1.68	1.57	.82	.06	.05	16.54
1957	.02	.06	.65	1.21	1.29	.81	4.68	3.56	5.19	1.64	.43	.06	19.60
1958	.18	1.32	5.43	.98	.26	.60	.62	1.15	2.89	.84	1.56	.71	16.54
1959	.44	1.45	.62	2.38	3.45	2.18	2.01	1.24	.84	.13	.34	.16	15.24
1960	.43	.79	1.35	1.44	2.15	1.30	.57	.90	4.74	.27	.19	.06	14.19

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	510	28.66
1951	1205	3,960	Feb. 21, 1951	7.5	298	1.24	16.79	310	17.45
1952	1235	6,760	June 23, 1952	6.1	399	1.66	22.49	308	17.38
1953	1275	5,260	Mar. 4, 1953	1.1	177	.734	9.96	170	9.61
1954	1335	950	Mar. 30, 1954	.1	37.3	.155	2.10	38.4	2.16
1955	1385	2,440	Apr. 25, 1955	.7	135	.560	7.62	229	12.94
1956	1435	6,720	Nov. 17, 1955	4.1	293	1.22	16.54	209	11.80
1957	1505	7,180	June 29, 1957	2.2	348	1.44	19.60	458	25.80
1958	1555	5,830	Dec. 21, 1957	8.5	294	1.22	16.54	215	12.12
1959	1625	6,740	Jan. 22, 1959	5.7	271	1.12	15.24	272	15.30
1960	1705	11,400	June 24, 1960	6.6	251	1.04	14.19	-	-

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 $5\frac{1}{4}$ miles south of Manhattan.

Drainage area.--292 sq mi.

Records available.--May to September 1931 (fragmentary), October 1938 to September 1960. 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.--22 years (1938-60), 292 cfs (unadjusted).

Extremes.--1931, 1938-60: Maximum discharge, 8,960 cfs Jan. 5, 1950 (gage height, 18.38 ft); no flow Aug. 7, 1953.

Remarks.--Flow regulated by Cagles Mill Reservoir (capacity, 228,100 acre-ft), since Dec. 20, 1952.

Monthly and yearly mean discharge, in cubic feet per second (observed)

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	66.6	584	622	670	953	396	413	232	170	315	36.1	16.4	369
1952	63.8	477	697	845	730	998	738	241	876	111	27.7	61.8	487
1953	9.46	21.3	92.1	179	224	748	452	73.3	4.94	300	5.69	2.57	176
1954	3.64	3.45	14.0	58.3	50.5	117	199	45.0	51.9	2.33	3.71	1.16	45.6
1955	20.6	164	38.0	231	142	86.1	710	158	158	89.1	13.0	67.4	155
1956	413	942	146	53.9	345	962	479	146	721	220	11.1	13.5	369
1957	4.64	20.1	169	306	297	267	1,168	322	1,291	1,010	117	19.5	415
1958	195	511	226	1,292	218	172	56.3	324	275	556	346	279	357
1959	83.4	359	157	112	1,365	820	317	421	235	171	92.1	38.4	327
1960	100	193	347	379	645	191	321	236	226	1,128	38.2	37.9	320

Monthly and yearly runoff, in inches (adjusted) ^{a/}

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.26	2.23	2.45	2.64	3.40	1.56	1.58	0.92	0.65	1.24	0.14	0.06	17.13
1952	.25	1.82	2.75	3.34	2.70	3.94	2.82	.95	3.35	.44	.11	.24	22.71
1953	.04	.08	.39	.71	.80	3.61	1.62	.80	.42	1.37	.07	.01	9.92
1954	.01	.02	.06	.23	.20	.50	.73	.20	.17	.01	.02	-.01	2.11
1955	.07	.02	.14	.90	.81	1.50	1.89	.77	.46	.35	.04	.05	7.60
1956	1.27	3.59	.57	.23	3.95	1.10	1.96	1.86	1.43	.79	.05	.04	16.84
1957	.02	.08	.67	1.22	1.25	.88	4.44	3.68	5.06	1.42	.46	.07	19.25
1958	.14	1.38	5.52	.95	.32	.72	.65	1.23	2.89	.83	1.33	.63	16.59
1959	.32	1.40	.60	2.85	3.71	2.01	1.92	1.15	.69	.11	.33	.15	15.24
1960	.40	.73	1.37	1.49	2.37	1.41	.62	1.05	4.42	.69	.25	.05	14.91

^a Adjusted for change in contents in Cagles Mill Reservoir since December 1952.

Note.--Negative figure indicates that evaporation and seepage from reservoir exceeded inflow.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year		
		Observed				Adjusted ^{a/}			Observed	Adjusted ^{a/}	
		Momentary	maximum	Minimum	Mean	Mean	Per square mile	Runoff in inches	Mean	Mean	Runoff in inches
		Discharge	Date	day							
1950	-	-	-	-	-	-	-	-	604	-	28.10
1951	1205	3,000	Feb. 21, 1951	11	369	-	1.26	17.13	366	-	17.01
1952	1235	3,290	Jan. 28, July 24	11	487	-	1.67	22.71	394	-	18.40
1953	1275	3,690	Mar. 4, 1953	0	176	213	.729	9.92	168	204	9.50
1954	1335	1,540	Apr. 13, 1954	.9	45.6	45.6	.156	2.11	64.0	50.3	2.25
1955	1365	4,040	Apr. 1, 1955	.5	155	164	.562	7.60	262	276	12.80
1956	1435	3,180	Mar. 27, 1956	2.7	369	361	1.24	16.84	261	261	12.18
1957	1505	2,940	June 9, 1957	2.3	415	415	1.42	19.25	460	550	25.52
1958	1555	2,600	May 14, 1958	4.2	357	357	1.22	16.59	345	255	11.87
1959	1625	2,440	Feb. 20, 1959	2.2	327	327	1.12	15.24	331	332	15.40
1960	1705	2,740	July 6, 1960	4.0	320	320	1.10	14.91	-	-	-

^a Adjusted for change in contents in Cagles Mill Reservoir.

3595. Deer Creek near Putnamville, Ind.

Location.--Lat 39°34'04", long 86°52'00", in NW $\frac{1}{4}$ 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, and 0.8 mile downstream from Limestone Creek.

Drainage area.--59.0 sq mi.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder. 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.--6 years (1954-60), 63.1 cfs.

Extremes.--1954-60: Maximum discharge, 7,450 cfs June 23, 1960 (gage height, 13.53 ft); no flow Oct. 1-10, 1954.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	0.28	1.00	7.52	57.6	47.9	83.4	75.9	47.4	42.5	24.7	3.03	89.4	40.0
1956	59.5	136	26.8	12.4	219	64.0	139	82.2	92.4	19.4	1.76	2.60	70.2
1957	1.41	7.22	56.7	70.9	66.3	56.3	246	221	256	58.0	44.5	3.83	90.4
1958	11.0	75.5	268	65.7	21.3	35.2	38.1	61.8	169	73.2	47.6	16.8	74.0
1959	15.6	42.6	22.3	146	134	96.5	114	48.8	24.6	4.11	19.2	2.88	55.3
1960	16.9	28.2	50.8	62.2	117	69.4	38.7	37.9	151	10.1	4.91	2.68	48.7

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	0.005	0.02	0.15	1.13	0.85	1.63	1.44	0.93	0.80	0.48	0.06	1.70	9.20
1956	1.16	2.57	.52	.24	4.00	1.24	2.63	1.60	1.75	.38	.03	.04	16.16
1957	.03	.14	1.11	1.38	1.17	1.10	4.65	4.32	4.84	1.13	.87	.07	20.81
1958	.21	1.43	5.23	1.28	.38	.69	.72	1.21	3.19	1.43	.93	.32	17.02
1959	.30	.81	.44	2.85	2.36	1.89	2.15	.95	.46	.08	.37	.05	12.71
1960	.33	.53	.99	1.21	2.14	1.36	.73	.74	2.86	.20	.10	.05	11.24

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-
1955	1385	4,200	Sept. 29, 1955	0	40.0	0.678	9.20	57.7	13.27
1956	1435	4,200	Nov. 16, 1955	.2	70.2	1.19	16.16	57.4	13.19
1957	1505	4,950	June 26, 1957	.2	90.4	1.53	20.81	115	26.40
1958	1555	5,210	June 11, 1958	.7	74.0	1.25	17.02	50.8	11.70
1959	1625	4,430	Jan. 21, 1959	.4	55.3	.937	12.71	56.6	13.01
1960	1705	7,450	June 23, 1960	.9	48.7	.825	11.24	-	-

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 1960. 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.--29 years (1931-60), 853 cfs (unadjusted).

Extremes.--1931-60: 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.--Flow regulated by Cagles Mill Reservoir (capacity, 228,100 acre-ft), since Dec. 20, 1952.

Corrections.--In WSP 1305, monthly figures for May 1935, water year and calendar year figures for 1935, were not listed as revised in WSP 893. The corrected figures are given herewith:

Month	Mean	Per square mile	Runoff in inches
May 1935.....	3,175	-	4.34
Water year 1934-35.....	706	0.836	11.34
Calendar year 1935.....	682	-	10.97

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	292	1,375	1,670	1,587	2,399	1,152	1,252	786	472	1,006	182	81.9	1,012
1952	177	916	1,741	1,950	1,785	2,454	2,226	687	1,939	340	126	134	1,202
1953	49.6	85.1	221	392	424	1,973	1,217	571	256	697	141	35.8	507
1954	27.7	33.9	57.2	159	178	553	622	233	165	39.4	56.9	13.9	161
1955	55.8	211	123	698	579	828	1,374	456	423	265	58.6	181	435
1956	650	1,638	419	153	1,895	1,428	1,275	899	1,271	713	101	58.4	868
1957	35.3	76.3	511	819	858	634	3,107	1,963	4,077	1,959	381	96.3	1,207
1958	303	1,109	2,681	2,021	507	483	389	975	1,640	1,250	1,232	509	1,098
1959	228	795	458	1,498	3,151	2,080	1,411	997	509	131	311	89.4	957
1960	217	410	755	1,055	1,887	882	767	773	1,547	1,475	123	92.9	828

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.40	1.82	2.28	2.17	2.96	1.57	1.65	1.07	0.62	1.37	0.25	0.11	16.27
1952	.24	1.21	2.38	2.66	2.28	3.35	2.94	.94	2.56	.46	.17	.18	19.37
1953	.07	.11	-	-	-	-	-	-	-	-	-	-	-

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,718	27.64
1951	1205	8,800	Feb. 21, 1951	64	1,012	1.20	16.27	971	15.60
1952	1235	17,000	June 23, 1952	54	1,202	1.42	19.37	994	16.02
1953	1275	9,800	Mar. 4, 1953	29	507	.601	8.16	487	7.83
1954	1335	1,930	Apr. 6, 1954	12	161	.191	2.59	163	2.95
1955	1385	4,880	Sept. 30, 1955	11	435	.515	6.99	628	10.10
1956	1435	9,600	Nov. 16, 1955	31	868	1.03	14.02	695	11.20
1957	1505	33,400	June 29, 1957	26	1,207	1.43	19.41	1,499	24.16
1958	1555	16,000	Dec. 20, 1957	28	1,098	1.30	17.65	877	14.11
1959	1625	15,000	Jan. 22, 1959	38	957	1.13	15.39	949	15.27
1960	1705	16,500	June 24, 1960	39	828	.981	13.35	-	-

WABASH RIVER BASIN

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, and at mile 118.0.

Drainage area.--4,696 sq mi.

Records available.--September 1928 to September 1960. 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.--32 years (1928-60), 4,621 cfs (unadjusted).

Extremes.--1928-60: 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.--Slight regulation by storage in four reservoirs above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,628	6,929	9,779	9,854	13,808	7,957	8,706	4,936	2,658	4,302	1,276	736	5,998
1952	910	3,716	8,848	10,070	12,620	13,600	12,140	4,595	6,633	2,422	1,083	1,355	6,471
1953	702	735	1,870	3,307	3,111	11,180	6,000	5,872	2,108	3,650	1,242	550	3,374
1954	420	443	534	976	1,384	2,345	4,922	1,860	1,411	542	561	358	1,307
1955	712	716	877	4,639	3,406	7,886	6,798	3,193	2,858	2,495	832	705	2,924
1956	3,088	8,625	3,275	1,422	10,210	7,653	6,785	5,085	9,834	3,722	1,168	777	5,094
1957	428	566	2,235	3,803	4,861	4,169	18,270	12,670	10,760	13,210	2,324	1,353	6,216
1958	1,565	4,853	16,780	6,996	2,672	3,375	3,507	5,979	15,080	7,214	7,936	2,583	6,578
1959	1,667	4,256	3,224	9,134	14,610	8,856	6,898	7,264	3,459	1,309	1,556	752	5,189
1960	1,242	2,176	3,437	5,506	9,205	4,100	4,443	3,687	7,453	4,680	1,243	813	3,973

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.40	1.65	2.40	2.42	3.06	1.95	2.07	1.21	0.63	1.06	0.31	0.17	17.33
1952	.22	.88	2.17	2.47	2.90	3.34	2.88	1.13	1.58	.59	.27	.32	18.75
1953	.17	.17	.46	.81	.69	2.74	1.43	1.44	.50	.90	.30	.13	9.74
1954	.10	.10	.13	.24	.51	.58	1.17	.46	.33	.13	.14	.08	3.77
1955	.18	.17	.22	1.14	.76	1.94	1.62	.78	.68	.61	.20	.17	8.47
1956	.76	2.05	.80	.35	2.34	1.88	1.61	1.24	2.33	.91	.29	.18	14.74
1957	.10	.14	.55	.93	1.08	1.02	4.34	3.11	2.56	3.24	.57	.32	17.96
1958	.58	1.15	4.12	1.72	.59	.83	.83	1.46	3.58	1.78	1.95	.61	19.00
1959	.41	1.01	.79	2.25	3.24	2.18	1.64	1.79	.82	.32	.38	.18	15.01
1960	.30	.52	.84	1.35	2.11	1.01	1.06	.90	1.77	1.15	.31	.19	11.51

Note.--Runoff for water year 1956 not previously published.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	9,648	27.89
1951	1205	30,200	Feb. 24, 1951	641	5,998	1.28	17.33	5,594	16.15
1952	1235	28,800	Jan. 31, 1952	557	6,471	1.38	18.75	5,618	16.28
1953	1275	26,300	Mar. 7, 1953	458	3,374	.718	9.74	3,212	9.27
1954	1335	9,100	Apr. 9, 1954	295	1,307	.278	3.77	1,384	4.01
1955	1385	15,100	Apr. 14, 1955	295	2,924	.623	8.47	3,980	11.50
1956	1435	37,900	June 2, 1956	472	5,094	1.08	14.74	4,120	11.92
1957	1505	52,700	July 3, 1957	374	6,216	1.32	17.96	7,900	22.82
1958	1555	48,000	Dec. 23, 1957	750	6,578	1.40	19.00	5,386	15.56
1959	1625	37,900	Jan. 25, 1959	465	5,189	1.10	15.01	5,000	14.46
1960	1705	34,100	June 26, 1960	575	3,973	.846	11.51	-	-

* Not previously published.

3610. 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 2 $\frac{1}{4}$ miles downstream from Three Mile Creek.

Drainage area.--187 sq mi.

Records available.--October 1950 to September 1960.

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.--10 years (1950-60), 200 cfs.

Extremes.--1950-60: Maximum discharge, 8,340 cfs Jan. 21, 1959 (gage height, 13.28 ft); minimum, 16 cfs Sept. 18-20, 1955; minimum gage height, 1.26 ft Sept. 13, 1956.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	86.3	326	425	410	741	398	483	207	127	136	58.2	48.4	284
1952	54.4	94.5	419	512	398	455	475	155	102	64.4	51.1	66.2	237
1953	54.7	69.8	98.9	154	148	379	146	275	96.3	150	61.9	36.5	138
1954	40.0	42.8	54.1	124	91.3	149	363	108	73.1	48.6	38.3	24.4	96.1
1955	59.6	53.5	82.8	185	204	333	225	119	113	83.5	47.8	93.8	133
1956	215	458	137	85.3	546	248	281	347	154	112	58.4	43.9	222
1957	43.3	49.5	88.4	124	137	98.3	542	340	665	193	84.4	72.8	202
1958	85.8	125	479	199	115	138	175	312	848	477	468	118	296
1959	112	221	149	619	516	328	280	285	122	80.7	59.2	48.9	234
1960	795	114	152	219	366	187	144	155	162	152	63.5	46.6	153

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.53	1.94	2.62	2.53	4.12	2.46	2.88	1.27	0.76	0.84	0.36	0.29	20.60
1952	.34	.56	2.58	3.15	2.30	2.80	2.82	.96	.61	.40	.31	.39	17.22
1953	.34	.42	.61	.83	.82	2.34	.87	1.69	.57	.93	.38	.22	10.02
1954	.25	.26	.33	.76	.51	.92	2.16	.67	.44	.30	.24	.14	6.98
1955	.37	.32	.51	1.14	1.14	2.05	1.34	.73	.67	.52	.30	.56	9.65
1956	1.33	2.73	.85	.53	3.15	1.53	1.67	2.14	.92	.69	.36	.26	16.16
1957	.27	.30	.55	.76	.76	.61	3.24	2.10	3.97	1.19	.52	.43	14.70
1958	.53	.75	2.95	1.22	.64	.85	1.04	1.92	5.05	2.94	2.98	.70	21.47
1959	.69	1.32	.92	3.82	2.67	2.02	1.67	1.75	.73	.50	.57	.29	16.95
1960	.49	.68	.94	1.35	2.11	1.15	.86	.96	.97	.94	.39	.28	11.12

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1951	1205								
1952	1235	6,650	Jan. 21, 1951	42	284	1.52	20.60	262	18.99
1953	1275	6,350	Jan. 27, 1952	39	237	1.27	17.22	208	15.11
1954	1335	3,580	Mar. 4, 1953	33	138	.738	10.02	131	9.49
1955	1385	4,850	Apr. 5, 1954	20	96.1	.514	6.98	101	7.34
1956		1,290	Jan. 6, 1955	18	133	.711	9.65	184	13.36
1957	1435	5,800	Nov. 16, 1955	38	222	1.19	16.16	170	12.37
1958	1505	3,900	June 18, 1957	38	202	1.08	14.70	245	17.81
1959	1555	7,020	June 14, 1958	63	296	1.58	21.47	278	20.17
1960	1625	8,340	Jan. 21, 1959	41	234	1.25	16.95	222	16.13
1960	1705	2,620	Feb. 10, 1960	43	153	.818	11.12	-	-

'3615. Blue River at Shelbyville, Ind.

Location.--Lat 39°31'45", long 85°46'55", in SE $\frac{1}{4}$ 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 1960.

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.--17 years (1943-60), 473 cfs.

Extremes.--1943-60: Maximum discharge, 14,800 cfs Jan. 5, 1949 (gage height, 17.00 ft, site and datum then in use); minimum, 23 cfs Oct. 2, 1953.
Flood in March 1913 reached a stage of about 20.2 ft, from floodmarks.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	155	817	1,000	1,101	1,538	812	935	400	307	299	100	68.0	621
1952	72.6	195	1,122	1,344	892	918	890	270	200	98.8	59.1	87.8	512
1953	74.0	97.9	221	294	341	815	337	576	178	268	87.8	43.2	278
1954	44.5	52.5	68.6	202	144	262	729	227	120	56.1	46.8	44.3	166
1955	85.1	78.0	138	397	462	739	475	264	249	161	71.0	177	273
1956	421	1,200	299	162	1,222	575	642	800	370	241	86.5	64.1	502
1957	63.8	78.0	143	231	345	204	1,260	913	1,068	465	124	81.5	414
1958	106	221	1,297	487	247	292	399	842	1,574	1,155	1,037	365	672
1959	240	462	323	1,234	1,251	705	531	713	290	169	116	74.9	506
1960	112	217	336	492	880	396	331	382	685	564	153	83.2	384

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.42	2.15	2.71	2.99	3.77	2.20	2.46	1.09	0.81	0.81	0.27	0.18	19.86
1952	.20	.51	3.04	3.65	2.26	2.49	2.34	.73	.52	.27	.16	.23	16.40
1953	.20	.26	.60	.80	.84	2.21	.88	1.56	.47	.73	.24	.11	8.90
1954	.12	.14	.19	.55	.35	.71	1.92	.62	.31	.15	.13	.12	5.31
1955	.23	.21	.37	1.08	1.14	2.01	1.25	.72	.65	.44	.19	.46	8.75
1956	1.14	3.15	.81	.44	3.11	1.56	1.68	2.17	.97	.65	.24	.17	16.09
1957	.17	.21	.40	.63	.84	.55	3.30	2.48	2.80	1.26	.34	.24	13.22
1958	.29	.58	3.52	1.33	.60	.79	1.05	2.28	4.13	3.14	2.81	.96	21.48
1959	.65	1.26	.88	3.34	3.06	1.91	1.40	1.94	.76	.46	.31	.20	16.17
1960	.30	.57	.91	1.34	2.23	1.07	.87	1.04	1.80	1.53	.42	.22	12.30

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30							Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches		Mean	Runoff in inches
		Discharge	Date							
1950	-	-	-	-	-	-	-	-	1,015	32.41
1951	1205	8,200	Feb. 22, 1951	58	621	1.46	19.86	574	18.33	
1952	1235	12,400	Jan. 27, 1952	42	512	1.20	16.40	428	13.71	
1953	1275	4,800	Mar. 5, 1953	36	278	.654	8.90	259	8.29	
1954	1335	4,290	Apr. 6, 1954	32	166	.391	5.31	177	5.67	
1955	1365	2,010	Jan. 7, 1955	36	273	.642	8.75	408	13.04	
1956	1435	8,640	Nov. 17, 1955	54	502	1.18	16.09	367	11.77	
1957	1505	5,510	Apr. 5, 1957	53	414	.974	13.22	527	16.83	
1958	1555	7,680	June 15, 1958	72	672	1.58	21.48	622	19.88	
1959	1625	10,300	Jan. 22, 1959	64	506	1.19	16.17	475	15.16	
1960	1705	6,650	June 24, 1960	62	384	.904	12.30	-	-	

3620. Youngs Creek near Edinburg, Ind.

Location.--Lat 39°25'08", long 86°00'18", in SW $\frac{1}{4}$ 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 1960. 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.--18 years (1942-60), 112 cfs.

Extremes.--1942-60: Maximum discharge, 10,700 cfs Jan. 27, 1952 (gage height, 13.4 ft); minimum, 0.4 cfs Sept. 14, 1954.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	8.86	216	204	320	340	223	184	95.7	87.7	150	11.2	4.27	152
1952	4.07	47.1	442	490	234	263	272	53.3	196	22.9	5.43	5.17	170
1953	2.94	5.39	17.6	78.3	72.2	249	101	186	22.0	36.9	3.54	2.48	65.2
1954	1.82	3.91	3.95	29.8	15.1	42.4	52.8	56.5	29.5	2.61	2.43	2.36	20.3
1955	3.71	4.31	21.6	86.3	117	231	75.6	76.0	30.4	25.1	4.82	32.8	58.8
1956	41.9	391	58.8	22.8	379	122	146	150	132	157	15.1	6.35	133
1957	3.76	7.10	56.5	81.2	148	64.4	426	437	225	305	31.4	10.1	150
1958	9.41	66.2	399	123	40.0	75.7	87.5	167	463	216	118	87.0	155
1959	35.3	101	87.8	324	286	198	130	207	43.1	15.6	7.69	5.62	118
1960	7.59	32.4	83.4	126	281	105	58.2	56.7	189	41.3	13.4	7.09	82.5

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.09	2.21	2.16	3.38	3.25	2.36	1.88	1.01	0.90	1.59	0.12	0.04	18.99
1952	.04	.48	4.68	5.19	2.32	2.79	2.79	.56	2.01	.24	.06	.05	21.21
1953	.03	.06	.19	.83	.69	2.64	1.03	1.97	.22	.41	.04	.03	8.14
1954	.02	.04	.04	.31	.14	.45	.54	.60	.30	.03	.03	.02	2.52
1955	.04	.04	.23	.91	1.11	2.44	.77	.80	.31	.26	.05	.34	7.30
1956	.44	4.00	.82	.24	3.75	1.29	1.50	1.59	1.35	1.66	.16	.06	16.66
1957	.04	.07	.60	.86	1.42	.88	4.36	4.62	2.30	3.23	.33	.10	18.61
1958	.10	.68	4.22	1.30	*.38	.80	.90	1.76	4.74	2.28	1.24	.89	19.29
1959	.37	1.03	.72	3.42	2.73	2.10	1.33	2.19	.44	.16	.08	.06	14.63
1960	.08	.33	.88	1.34	2.78	1.11	.60	.60	1.93	.44	.14	.07	10.30

* Revised.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	188	23.43
1951	1205	2,730	Jan. 15, 1951	2.4	152	1.39	18.99	158	19.73
1952	1235	10,700	Jan. 27, 1952	1.9	170	1.56	21.21	130	16.29
1953	1275	2,080	Mar. 4, 1953	.5	65.2	.598	8.14	63.9	7.96
1954	1335	443	Jan. 27, 1954	.5	20.3	.186	2.52	22.0	2.73
1955	1385	1,110	May 28, 1955	1.4	58.8	.539	7.30	97.0	12.05
1956	1435	7,790	Nov. 16, 1955	3.3	133	1.22	16.66	98.5	12.31
1957	1505	6,510	July 5, 1957	2.1	150	1.39	18.61	184	22.90
1958	1555	4,350	June 11, 1958	4.7	155	1.42	*19.29	132	*16.41
1959	1625	6,270	Jan. 21, 1959	2.7	118	1.08	14.63	111	13.80
1960	1705	3,070	June 24, 1960	3.3	82.5	.757	10.30	-	-

* Revised.

WABASH RIVER BASIN

3625. Sugar Creek near Edinburg, Ind.

Location.--Lat 39°21'39", long 85°59'51" (corrected), 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, 1 $\frac{1}{4}$ miles upstream from confluence with Blue River, and 1 $\frac{1}{2}$ miles northwest of Edinburg.

Drainage area.--462 sq mi.

Records available.--October 1942 to September 1960. 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.--18 years (1942-60), 499 cfs.

Extremes.--1942-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	103	818	912	1,232	1,500	949	885	408	280	400	66.8	37.8	627
1952	34.7	194	1,343	1,529	1,123	1,102	1,192	266	645	187	51.1	73.3	644
1953	41.1	52.6	177	371	328	1,119	433	771	148	406	82.5	26.1	332
1954	24.4	35.4	49.1	182	182	350	700	248	95.9	29.5	25.4	13.4	160
1955	46.8	40.2	104	430	431	931	544	264	325	210	55.9	133	292
1956	500	1,720	328	122	1,556	589	763	1,372	480	453	79.8	52.0	662
1957	34.1	42.2	153	318	505	265	1,825	1,530	973	843	116	70.1	555
1958	67.9	252	1,689	496	205	270	284	696	1,608	1,216	1,046	371	688
1959	168	447	314	1,478	1,316	787	583	749	247	101	64.6	46.2	521
1960	80.7	177	336	484	1,077	417	303	313	685	386	87.9	70.3	365

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.26	1.97	2.28	3.07	3.38	2.37	2.14	1.02	0.68	1.00	0.17	0.09	18.43
1952	.09	.47	3.35	3.82	2.62	2.75	2.88	.66	1.56	.47	.13	.18	18.98
1953	.10	.13	.44	.93	.74	2.79	1.05	1.92	.36	1.01	.21	.06	9.74
1954	.06	.08	.12	.45	.41	.87	1.70	.62	.23	.07	.06	.03	4.70
1955	.12	.10	.26	1.07	.97	2.33	1.32	.66	.78	.52	.13	.32	8.58
1956	1.24	4.15	.82	.30	3.64	1.46	1.84	3.42	1.16	1.13	.20	.13	19.49
1957	.09	.10	.38	.79	1.14	.66	4.41	3.82	2.35	2.10	.29	.17	16.30
1958	.17	.61	4.22	1.23	.46	.67	.69	1.74	3.88	3.03	2.61	.90	20.21
1959	.42	1.08	.78	3.69	2.97	1.96	1.41	1.87	.60	.25	.16	.11	15.30
1960	.20	.43	.84	1.21	2.51	1.04	.73	.78	1.65	.96	.22	.17	10.74

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	953	27.00
1951	1205	8,080	Feb. 22, 1951	30	627	1.36	18.43	606	17.83
1952	1235	15,700	Jan. 27, 1952	28	644	1.39	18.98	534	15.74
1953	1275	7,680	Mar. 5, 1953	18	332	.719	9.74	318	9.33
1954	1335	2,550	Apr. 8, 1954	9.2	160	.346	4.70	167	4.92
1955	1385	2,260	Mar. 5, 1955	9.8	292	.632	8.58	488	14.31
1956	1435	27,600	May 29, 1956	35	662	1.43	19.49	470	13.85
1957	1505	9,680	May 23, 1957	32	555	1.20	16.30	705	20.73
1958	1555	7,680	Dec. 21, Aug. 2	42	688	1.49	20.21	596	17.49
1959	1625	11,400	Jan. 22, 1959	33	521	1.13	15.30	493	14.49
1960	1705	6,530	June 24, 1960	44	365	.790	10.74	-	-

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 $1\frac{1}{2}$ miles southwest of Edinburg.

Drainage area.--1,054 sq mi.

Records available.--October 1940 to September 1960. 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.--20 years (1940-60), 1,143 cfs.

Extremes.--1940-60: Maximum discharge, 37,500 cfs May 29, 1956 (gage height, 16.80 ft); minimum observed, 36 cfs Sept. 23, 1941.

Maximum stage known, 20.3 ft in March 1913, from information by local residents.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	381	2,046	2,438	2,960	3,789	2,330	2,474	1,159	726	976	261	170	1,628
1952	154	466	3,130	4,119	2,916	2,761	2,823	779	1,054	386	169	210	1,578
1953	148	204	523	867	803	2,272	845	1,557	482	861	245	108	746
1954	106	156	171	472	415	702	1,756	614	291	117	99.7	68.8	411
1955	152	146	272	1,046	1,089	2,293	1,438	690	767	513	197	324	742
1956	1,511	4,035	912	384	3,588	1,647	1,921	2,613	1,421	1,012	247	163	1,591
1957	132	166	408	669	1,162	611	3,563	3,064	2,376	1,910	355	242	1,218
1958	239	572	3,448	1,409	613	731	867	2,011	3,731	2,966	2,372	776	1,656
1959	510	1,121	864	3,172	3,229	1,987	1,408	1,795	834	332	242	171	1,294
1960	252	522	880	1,329	2,520	1,054	873	866	1,728	1,319	337	229	986

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.42	2.17	2.67	3.24	3.74	2.55	2.62	1.27	0.77	1.07	0.29	0.18	20.99
1952	.17	.49	3.42	4.51	2.98	3.02	2.99	.85	1.12	.42	.19	.22	20.38
1953	.16	.22	.57	.95	.79	2.49	.89	1.70	.51	.94	.27	.11	9.60
1954	.12	.14	.19	.52	.41	.77	1.86	.67	.51	.13	.11	.07	5.30
1955	.17	.15	.30	1.14	1.07	2.51	1.52	.76	.81	.56	.22	.14	9.55
1956	1.43	4.27	1.00	.42	3.67	1.80	2.03	2.86	1.51	1.11	.27	.17	20.54
1957	.14	.18	.45	.73	1.14	.67	3.77	3.36	2.51	2.09	.39	.26	15.69
1958	.26	.61	3.77	1.54	.61	.80	.92	2.20	3.95	3.26	2.59	.92	21.33
1959	.56	1.18	.94	3.47	3.19	2.18	1.50	1.96	.88	.36	.26	.18	16.66
1960	.28	.55	.96	1.45	2.58	1.15	.92	.95	1.83	1.44	.37	.24	12.72

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2,305	29.70
1951	1205	18,100	Feb. 22, 1951	152	1,628	1.54	20.99	1,558	19.81
1952	1235	34,500	Jan. 27, 1952	126	1,578	1.50	20.38	1,335	17.25
1953	1275	12,200	Mar. 5, 1953	91	746	.708	9.60	707	9.10
1954	1335	6,800	Apr. 8, 1954	53	411	.390	5.30	424	5.47
1955	1385	4,680	Mar. 23, 1955	60	742	.704	9.55	1,214	15.63
1956	1435	37,500	May 29, 1956	128	1,591	1.51	20.54	1,131	14.61
1957	1505	15,800	May 23, 1957	120	1,218	1.16	15.69	1,519	19.56
1958	1555	14,200	June 16, Aug. 3	172	1,656	1.57	21.33	1,505	19.37
1959	1625	21,800	Jan. 23, 1959	137	1,294	1.23	16.66	1,224	15.77
1960	1705	13,300	June 25, 1960	149	986	.955	12.72	-	-

3635. Flatrock River at St. Paul, Ind.

Location (revised).--Lat 39°25'03", long 85°38'03", in NE $\frac{1}{4}$ 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 $\frac{1}{2}$ miles downstream from Mill Creek.

Drainage area.--298 sq mi.

Records available.--October 1930 to September 1960. 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.--30 years (1930-60), 318 cfs.

Extremes.--1930-60: Maximum discharge, 18,500 cfs Jan. 5, 1949 (gage height, 10.60 ft); maximum gage height, 11.34 ft Jan. 21, 22, 1959, from outside floodmarks; minimum, 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.--Slight diversion occasionally by quarry above gage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	120	785	800	950	1,296	697	810	244	294	191	27.4	13.9	513
1952	16.5	135	1,045	1,407	604	704	585	183	109	28.0	12.7	13.4	405
1953	8.52	21.6	107	352	304	528	213	567	123	125	28.0	3.37	199
1954	3.19	9.67	17.5	52.1	44.7	109	402	161	81.3	16.1	12.1	4.32	75.8
1955	11.5	16.6	72.3	253	472	625	281	220	172	130	17.1	102	196
1956	187	1,115	194	963	904	416	556	441	272	192	25.4	11.1	553
1957	8.93	20.1	89.3	146	315	154	915	780	635	349	57.9	40.5	289
1958	32.3	183	995	349	150	225	323	684	919	831	643	189	481
1959	109	262	216	1,065	1,030	524	312	422	156	58.0	27.8	16.0	346
1960	33.5	91.6	196	323	536	230	182	197	446	339	84.9	18.6	222

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.47	2.94	3.10	3.67	4.53	2.70	3.03	0.94	1.10	0.74	0.11	0.05	23.58
1952	.06	.50	4.04	5.44	2.19	2.73	2.19	.71	.41	.11	.05	.05	18.48
1953	.03	.08	.41	1.36	1.05	2.04	.80	2.19	.46	.48	.11	.01	9.03
1954	.01	.04	.07	.20	.16	.42	1.51	.62	.30	.06	.05	.02	3.48
1955	.04	.06	.28	.98	1.64	2.42	1.05	.85	.64	.50	.07	.38	8.91
1956	.72	4.17	.75	.37	3.27	1.61	2.09	1.71	1.02	.74	.10	.04	16.59
1957	.04	.07	.34	.56	1.10	.60	3.42	2.94	2.38	1.35	.22	.15	13.17
1958	.12	.69	3.85	1.35	.52	.87	1.20	3.42	3.44	3.22	2.49	.71	21.88
1959	.42	.98	.84	4.12	3.60	2.03	1.17	1.64	.58	.22	.11	.06	15.77
1960	.13	.34	.76	1.24	1.94	.89	.68	.76	1.67	1.31	.33	.07	10.12

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	732	33.39	
1951	1205	8,400	Feb. 21, 1951	11	513	1.72	23.38	472	21.47	
1952	1235	15,600	Jan. 27, 1952	4.6	405	1.36	18.48	315	14.40	
1953	1275	2,260	May 17, 1953	2.0	199	.668	9.03	190	8.63	
1954	1335	1,520	Apr. 7, 1954	1.8	75.8	.254	3.46	81.7	3.72	
1955	1395	3,550	July 9, 1955	1.4	196	.658	8.91	312	14.17	
1956	1435	10,800	Nov. 16, 1955	7.0	363	1.22	16.59	249	11.40	
1957	1505	*6,400	May 22, 1957	3.5	289	.970	13.17	382	17.38	
1958	1555	7,100	May 6, 1958	15	481	1.61	21.88	427	19.46	
1959	1625	14,500	Jan. 21-22, 1959	6.3	346	1.16	15.77	324	14.76	
1960	1705	6,240	June 23, 1960	12	222	.745	10.12	-	-	

* Revised.

3640. East Fork White River at Columbus, Ind.

Location.--Lat 39°12', long 86°56', in NW $\frac{1}{4}$ sec.25, 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 and Flatrock Rivers and 1.4 miles upstream from Haw Creek.

Drainage area.--1,692 sq mi.

Records available.--October 1947 to September 1960. 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.--13 years (1947-60), 1,938 cfs.

Extremes.--1947-60: Maximum discharge, 48,700 cfs Jan. 28, 1952 (gage height, 16.00 ft); minimum, 87 cfs Sept. 29, Oct. 7, 1954.

Flood in March 1913 reached a stage of 17.9 ft, from floodmarks (discharge, about 100,000 cfs).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	505	3,380	4,017	4,466	6,107	3,529	3,833	1,628	1,287	1,392	473	236	2,547
1952	198	693	5,180	6,232	4,109	3,996	3,851	1,461	1,418	557	256	296	2,353
1953	245	275	671	1,451	1,397	3,242	1,480	2,517	705	989	302	139	1,121
1954	144	180	229	515	526	829	2,307	860	443	161	136	101	554
1955	173	172	331	1,499	2,131	3,599	2,005	1,085	1,102	809	276	394	1,125
1956	1,744	5,284	1,191	562	5,083	2,340	3,027	3,239	2,707	1,661	374	270	2,269
1957	225	261	604	979	1,643	927	5,593	4,546	3,022	2,879	473	372	1,790
1958	325	725	5,476	2,235	817	1,303	1,594	3,969	5,565	4,990	3,705	1,181	2,677
1959	744	1,624	1,271	4,918	5,433	3,054	1,873	2,452	1,149	475	373	267	1,949
1960	298	664	1,215	1,802	3,516	1,486	1,222	1,149	2,936	1,933	501	342	1,412

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.34	2.23	2.74	3.04	3.76	2.40	2.53	1.11	0.85	0.95	0.32	0.16	20.43
1952	.13	.46	3.53	4.25	2.62	2.72	2.54	1.00	.94	.38	.17	.20	18.94
1953	.17	.18	.46	.99	.86	2.21	.98	1.71	.46	.67	.21	.09	8.99
1954	.10	.12	.16	.35	.32	.56	1.52	.59	.29	.11	.09	.07	4.28
1955	.12	.11	.23	1.02	1.31	2.46	1.32	.74	.75	.55	.19	.26	9.03
1956	1.19	3.48	.81	.58	3.24	1.59	2.00	2.20	1.78	1.13	.25	.18	18.23
1957	.15	.17	.41	.67	1.01	.63	3.69	3.10	2.00	1.96	.32	.24	14.35
1958	.22	.48	3.74	1.52	.50	.89	1.05	2.71	3.67	3.40	2.52	.78	21.48
1959	.51	1.07	.87	3.36	3.34	2.08	1.24	1.67	.76	.32	.25	.18	15.65
1960	.20	.44	.83	1.23	2.24	1.01	.81	.78	1.94	1.31	.34	.23	11.36

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	3,712	29.79
1951	1205	24,800	Feb. 22, 1957	190	2,547	1.51	20.43	2,398	19.24
1952	1235	48,700	Jan. 28, 1952	170	2,353	1.39	18.94	1,941	15.63
1953	1275	11,900	Mar. 6, 1953	119	1,121	.663	8.99	1,067	8.56
1954	1335	6,230	Apr. 8, 1954	87	534	.316	4.28	544	4.36
1955	1385	7,250	Mar. 6, 1955	89	1,125	.665	9.03	1,752	14.06
1956	1435	37,700	Nov. 18, 1955	220	2,269	1.34	18.23	1,679	13.48
1957	1505	24,400	May 23, 1957	211	1,790	1.06	14.35	2,250	18.06
1958	1555	20,700	Dec. 21, 1957	218	2,677	1.58	21.48	2,429	19.49
1959	1625	32,500	Jan. 22, 1959	215	1,949	1.15	15.65	1,827	14.67
1960	1705	20,400	June 24, 1960	205	1,412	.835	11.36	-	-

WABASH RIVER BASIN

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 1960.

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--12 years (1948-60), 108 cfs.

Extremes--1948-60: Maximum discharge, 11,300 cfs Jan. 21, 1959 (gage height, 14.29 ft); no flow at times during 1948, 1951-57, 1959.

Flood in 1913 reached a stage of 25.1 ft, from floodmarks.

Revisions--The momentary maximum discharge for the 1949 water year, published in WSP 1305, has been revised to 9,510 cfs.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	20.7	257	272	295	340	234	210	41.1	70.8	67.0	2.98	0.273	150
1952	.345	50.8	517	469	243	251	143	63.1	87.7	7.33	1.28	2.18	136
1953	.21	3.47	33.2	202	86.7	183	55.1	179	28.8	11.1	7.52	0	64.3
1954	0	0	.13	10.4	7.18	21.1	34.0	24.2	11.0	0	0	0	9.00
1955	0	0	11.4	55.4	200	213	58.1	52.9	62.1	97.3	5.14	35.6	65.0
1956	58.4	252	46.2	32.6	299	125	216	157	107	89.1	5.52	2.41	115
1957	.83	4.01	43.6	73.0	141	58.5	290	284	108	149	5.45	1.30	96.2
1958	1.16	28.5	292	97.8	39.5	57.9	112	314	209	150	120	28.5	122
1959	15.7	52.6	58.3	387	292	145	69.3	53.5	10.6	8.10	2.79	3.66	90.5
1960	8.11	20.6	70.5	89.9	149	66.6	51.3	41.9	164	87.5	26.5	2.38	64.4

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.27	3.23	3.53	3.84	3.98	3.04	2.64	0.53	0.89	0.87	0.04	0.003	22.86
1952	.004	.64	4.11	6.09	2.95	3.26	1.79	.82	1.10	.10	.02	.03	20.91
1953	.003	.04	.43	2.62	1.02	2.11	.69	2.33	.34	.14	.10	0	9.82
1954	0	0	.002	.13	.08	.27	.43	.31	.14	0	0	0	1.36
1955	0	0	.15	.72	2.34	2.77	.73	.69	.78	1.27	.07	.45	9.97
1956	.76	3.17	.60	.42	3.64	1.63	2.71	2.04	1.34	1.15	.07	.03	17.56
1957	.01	.05	.57	.95	1.66	.76	3.65	3.70	1.36	1.94	.07	.02	14.74
1958	.02	.36	3.79	1.27	1.46	.75	1.41	4.08	2.62	1.95	1.56	.36	18.63
1959	.20	.66	.76	5.03	3.43	1.88	.67	.69	.13	.10	.04	.05	13.84
1960	.10	.26	.92	1.16	1.81	.86	.64	.54	2.06	1.14	.34	.03	9.86

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	222	33.95
1951	1205	3,910	Nov. 20, 1950	0	150	1.69	22.86	135	20.69
1952	1235	6,250	Jan. 26, 1952	0	136	1.53	20.91	109	16.63
1953	1275	1,370	Mar. 4, 1953	0	64.3	.724	9.82	61.1	9.35
1954	1335	635	May 27, 1954	0	9.00	.101	1.36	9.95	1.51
1955	1385	1,760	July 9, 1955	0	65.0	.732	9.97	93.7	14.35
1956	1435	5,890	June 22, 1956	0	115	1.30	17.56	89.1	13.66
1957	1505	4,270	July 4, 1957	0	96.2	1.08	14.74	119	18.29
1958	1555	2,700	May 6, 1958	.1	122	1.37	18.63	105	16.08
1959	1625	11,300	Jan. 21, 1959	0	90.5	1.02	13.84	88.3	13.50
1960	1705	3,630	June 23, 1960	1.5	64.4	.725	9.86	-	-

3650. Sand Creek near Brewersville, Ind.

Location.--Lat 39°05'05", long 85°39'30", in NW $\frac{1}{4}$ sec.5, T.7 N., R.8 E., on left bank at downstream side of county highway bridge, 2 $\frac{1}{2}$ miles west of Brewersville and 5.2 miles upstream from Bear Creek.

Drainage area.--156 sq mi. At site used prior to Oct. 6, 1952, 153 sq mi.

Records available.--February 1948 to September 1960.

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.--12 years (1948-60), 185 cfs.

Extremes.--1948-60: Maximum discharge, 19,900 cfs Jan. 21, 1959 (gage height, 21.70 ft), from rating curve extended above 6,500 cfs on basis of contracted-opening measurement of peak flow; no flow many times.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	32.3	46.4	50.2	54.5	39.6	47.0	32.8	11.4	77.4	42.7	2.81	2.74	247
1952	.887	47.3	375	722	320	548	398	128	97.4	19.5	10.8	9.06	223
1953	1.11	†9.04	44.5	366	86.5	251	154	325	16.0	30.6	4.69	.050	108
1954	0	0	3.81	12.6	12.8	46.0	42.0	61.5	37.5	.274	3.73	.350	18.4
1955	3.18	2.13	18.8	96.3	445	442	108	44.1	43.4	40.8	9.21	14.7	104
1956	58.8	225	40.7	75.5	515	242	349	267	127	75.3	15.5	36.6	167
1957	3.08	9.27	96.7	143	274	100	575	496	236	219	8.72	7.29	180
1958	3.99	133	635	159	61.1	101	205	483	320	396	186	113	235
1959	35.3	108	110	814	467	283	185	75.4	25.8	18.8	12.1	11.0	174
1960	16.6	29.8	111	196	299	126	77.6	118	432	154	70.9	3.77	135

† Corrected.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.24	3.38	3.78	4.11	2.69	3.54	2.39	0.86	0.56	0.32	0.02	0.02	21.91
1952	.007	.34	2.83	5.44	2.28	4.13	2.90	.97	.71	.15	.08	.07	19.89
1953	.008	.06	.33	2.71	.58	1.88	1.10	2.40	.12	.23	.04	.0004	9.44
1954	0	0	.03	.09	.09	.34	.30	.45	.27	.002	.03	.003	1.60
1955	.02	.01	.14	.71	2.97	3.26	.77	.33	.31	.30	.07	.10	8.99
1956	.43	1.61	.30	.56	3.56	1.79	2.50	1.97	.91	.56	.11	.26	14.56
1957	.02	.07	.71	1.06	1.83	.74	4.12	3.67	1.68	1.61	.06	.05	15.62
1958	.03	.95	4.69	1.18	.41	.75	1.46	3.57	2.29	2.93	1.37	.81	20.44
1959	.26	.77	.81	6.02	3.11	1.95	1.18	.56	.18	.14	.09	.08	15.15
1960	.12	.21	.82	1.45	2.07	.93	.55	.87	3.09	1.14	.52	.03	11.80

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	422	37.43
1951	1205	11,100	Nov. 20, 1950	0.9	247	1.61	21.91	199	17.69
1952	1235	5,780	Jan. 26, 1952	.5	223	1.46	19.89	193	17.11
1953	1275	3,460	Mar. 4, 1953	0	108	.692	9.44	104	9.07
1954	1335	1,240	June 1, 1954	0	18.4	.118	1.60	20.1	1.74
1955	1385	4,300	Feb. 27, 1955	0	104	.667	8.99	128	11.16
1956	1435	7,560	May 28, 1956	.8	167	1.07	14.56	149	13.02
1957	1505	8,480	Apr. 4, 1957	.3	180	1.15	15.62	236	20.49
1958	1555	7,150	July 22, 1958	.4	235	1.51	20.44	191	16.61
1959	1625	19,900	Jan. 21, 1959	1.1	174	1.12	15.15	166	14.46
1960	1705	9,750	June 23, 1960	2.2	135	.865	11.80	-	-

3655. East Fork White River at Seymour, Ind.

Location.--Lat 38°58'57", long 85°53'57", in NW $\frac{1}{4}$ 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 1960. 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 Indianapolis office of the Geological Survey.

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.--33 years (1927-60), 2,414 cfs.

Extremes.--1923-60: Maximum discharge, 78,500 cfs Jan. 5, 1949 (gage height, 19.67 ft). 1927-60: Minimum discharge, 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.--Some regulation of low flow by Seymour Water Co. at dam above station. Records of water temperatures for the period October 1954 to September 1960 are published in reports of the Geological Survey.

Correction.--In WSP 1305, the monthly runoff in inches for March 1949 is listed in error; it should be 3.18 inches. The yearly mean discharge and the yearly mean runoff for 1949 are listed in error in tables 1 and 2; they should be 3,553 cfs and 20.69 in., respectively.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	749	4,500	5,684	6,933	8,343	5,471	5,654	2,094	1,485	1,646	494	318	3,582
1952	286	802	6,881	8,173	5,421	5,616	5,257	2,133	2,202	821	385	388	3,196
1953	298	358	874	2,796	1,878	4,431	2,105	3,674	961	1,170	431	210	1,603
1954	196	214	273	555	615	919	2,561	1,228	626	229	208	190	649
1955	213	217	330	1,707	2,930	4,997	2,284	1,319	1,320	1,051	360	392	1,418
1956	1,859	6,440	1,732	869	7,125	3,582	4,491	3,656	4,061	2,212	524	464	3,054
1957	283	315	1,033	1,540	2,697	1,419	7,495	6,834	4,116	4,418	671	447	2,600
1958	394	1,195	2,288	2,966	1,353	1,524	2,179	6,128	6,730	5,733	4,433	1,617	3,479
1959	996	1,859	1,746	7,589	7,038	4,252	2,396	2,671	1,544	626	484	345	2,605
1960	390	689	1,313	2,138	4,551	1,917	1,678	1,445	4,323	2,678	757	415	1,844

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.37	2.15	2.81	2.43	3.72	2.70	2.70	1.03	0.71	0.81	0.24	0.15	20.82
1952	.14	.38	3.40	4.04	2.51	2.78	2.51	1.05	1.05	.41	.19	.19	18.65
1953	.15	.16	.43	1.38	.84	2.19	1.01	1.82	.46	.58	.21	.10	9.33
1954	.10	.10	.13	.27	.27	.45	1.23	.61	.30	.11	.10	.09	3.76
1955	.11	.10	.16	.84	1.26	2.47	1.09	.65	.63	.52	.18	.19	8.20
1956	.92	3.08	.86	.43	3.29	1.78	2.14	1.81	1.94	1.09	.26	.22	17.82
1957	.14	.15	1.31	.76	1.21	.70	3.58	3.39	1.96	2.18	.33	.21	15.11
1958	.19	.57	3.56	1.46	.60	.75	1.04	5.03	3.21	2.84	2.19	.77	20.21
1959	.49	.89	.86	3.75	3.14	2.10	1.15	1.31	.74	.31	.24	.17	15.15
1960	.19	.53	.65	1.06	2.10	.95	.80	.71	2.06	1.33	.37	.20	10.75

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	28,800	Feb. 22, 1951	284	3,582	1.54	20.82	5,167	30.07
1952	1235	44,000	Jan. 28, 1952	240	3,196	1.37	18.65	3,341	19.41
1953	1275	13,300	Mar. 7, 1953	189	1,603	.687	9.33	2,650	15.47
1954	1335	6,120	Apr. 9, 1954	170	649	.278	3.76	655	3.80
1955	1385	11,100	Mar. 22, 1955	170	1,418	.608	8.20	2,189	12.69
1956	1435	42,100	Nov. 18, 1955	300	3,054	1.31	17.82	2,359	13.76
1957	1505	33,400	May 23, 1957	280	2,600	1.11	15.11	3,207	18.63
1958	1555	30,100	May 7, 1958	322	3,479	1.49	20.21	3,120	18.13
1959	1625	62,100	Jan. 22, 1959	286	2,605	1.12	15.15	2,420	14.08
1960	1705	28,100	June 24, 1960	307	1,844	.790	10.75	-	-

3660. Graham Creek near Vernon, Ind.

Location.--Lat 38°56', long 85°34', in SE $\frac{1}{4}$ 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 1960.

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.--5 years (1955-60), 98.2 cfs.

Extremes.--1955-60: 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 at gage heights 15.13, 19.13, and 21.37 ft; no flow at times during most years.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	29.5	10.7	0.43	2.32	-
1956	36.6	218	25.8	82.5	344	194	75.4	136	45.8	21.0	2.79	44.9	101
1957	5.45	4.05	86.9	147	140	60.6	278	157	161	184	.65	.19	102
1958	.20	77.0	295	81.0	24.9	61.6	114	178	131	253	69.3	16.7	109
1959	8.39	29.6	52.5	468	210	114	45.6	28.0	5.38	8.60	2.84	1.04	80.6
1960	3.85	30.6	123	129	188	84.4	41.0	71.0	379	135	2.45	.10	98.3

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	0.42	0.16	0.006	0.03	-
1956	0.54	3.14	0.38	1.22	4.78	2.88	1.08	2.02	.66	.31	.04	.65	17.70
1957	.08	.06	1.29	2.18	1.87	.90	3.99	2.33	2.31	2.73	.009	.003	17.75
1958	.003	1.11	4.38	1.20	.33	.92	1.64	2.64	1.89	3.76	1.03	.24	19.14
1959	.12	.43	.78	6.95	2.82	1.70	.66	.42	.08	.10	.04	.01	14.11
1960	.06	.44	1.83	1.91	2.61	1.26	.59	1.05	5.44	2.01	.04	.001	17.24

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-
1955	1385	a485	June 12, 1955	0	-	-	-	-	-
1956	1435	4,470	May 28, 1956	.2	101	1.30	17.70	86.0	15.07
1957	1505	8,800	July 5, 1957	0	102	1.31	17.75	125.0	21.82
1958	1555	6,600	July 22, 1958	0	109	1.40	19.14	85.6	14.98
1959	1625	15,700	Jan. 21, 1959	.2	80.6	1.04	14.11	86.2	15.11
1960	1705	18,600	June 23, 1960	0	98.3	1.27	17.24	-	-

a Maximum during period June to September.

3665. Muscatatuck River near Deputy, Ind.

Location (revised).--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 1960.

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.--12 years (1948-60), 363 cfs.

Extremes.--1947-60: 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 many years.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	55.6	810	890	1,264	1,213	964	549	177	84.2	20.7	1.06	6.70	499
1952	1.58	72.3	1,019	858	934	806	350	43.3	78.0	7.45	2.09	5.68	347
1953	2.15	2.80	79.8	564	113	416	297	351	11.7	26.5	3.89	.07	157
1954	0	.16	3.20	28.2	18.1	65.2	94.6	62.9	30.1	.42	0	0	25.3
1955	8.69	4.83	93.5	324	1,425	1,597	229	154	95.8	77.4	6.69	31.1	331
1956	144	692	97.8	313	1,485	768	247	425	159	97.8	54.9	130	378
1957	64.8	21.6	221	474	554	223	1,078	567	615	806	14.3	21.3	370
1958	10.4	463	1,260	338	134	268	468	555	289	661	320	64.6	406
1959	28.6	106	279	2,068	737	482	187	154	39.0	23.9	13.6	1.66	343
1960	13.9	97.4	370	458	727	327	163	161	879	545	8.24	.61	311

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.22	3.05	3.47	4.92	4.27	3.75	2.07	0.69	0.32	0.08	0.004	0.03	22.87
1952	.006	.27	3.97	3.34	3.40	3.14	1.32	.17	.29	.03	.008	.02	15.96
1953	.008	.01	.31	2.20	.40	1.62	1.12	1.37	.04	.10	.02	.0003	7.20
1954	0	.0006	.01	.11	.06	.25	.36	.24	.11	.002	0	0	1.14
1955	.03	.02	.36	1.26	5.01	6.23	.86	.60	.36	.30	.03	.12	15.18
1956	.56	2.61	.38	1.22	5.41	2.99	.93	1.66	.60	.38	.14	.49	17.37
1957	.25	.08	.86	1.84	1.95	.87	4.06	2.21	2.32	2.36	.06	.08	16.94
1958	.04	1.74	4.91	1.31	.47	1.04	1.76	2.17	1.09	2.57	1.24	.24	18.58
1959	.11	.40	1.09	8.06	2.59	1.88	.71	.60	.15	.09	.05	.006	15.73
1960	.05	.37	1.44	1.79	2.65	1.27	.61	.63	3.31	2.12	.03	.002	14.27

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	739	33.88
1951	1205	13,800	Nov. 20, 1950	0.3	499	1.69	22.87	443	20.38
1952	1235	15,000	Mar. 11, 1952	.5	347	1.17	15.96	282	12.05
1953	1275	6,100	Jan. 28, 1953	0	157	.530	7.20	150	6.88
1954	1335	439	Apr. 17, 1954	0	25.3	.085	1.14	34.1	1.54
1955	1385	12,400	Feb. 27, 1955	0	331	1.12	15.18	399	18.32
1956	1435	8,750	Mar. 8, 1956	1.3	378	1.28	17.37	326	15.01
1957	1505	22,100	July 5, 1957	2.1	370	1.25	16.94	490	22.44
1958	1555	13,600	July 23, 1958	.8	406	1.37	18.58	294	13.49
1959	1625	52,200	Jan. 21, 1959	.3	343	1.16	15.73	349	16.00
1960	1705	31,800	June 23, 1960	0	311	1.05	14.27	-	-

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 1960 (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 chain gage (for low flows) at Slate-Ford bridge $2\frac{1}{4}$ miles upstream at different datum.

Extremes.--1932-60: Maximum discharge, 53,900 cfs Jan. 22, 1959 (gage height, 29.20 ft).

Remarks.--Daily discharge not computed when gage height is below 13.0 ft since Oct. 1, 1943.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					Runoff in inches
1950	-	-	-	-	-	-	-	-
1951	1205	13,200	Jan. 15, 1951	-	-	-	-	-
1952	1235	9,250	Mar. 12, 1952	-	-	-	-	-
1953	1275	4,120	Jan. 29, 1953	-	-	-	-	-
1954	-	-	-	-	-	-	-	-
1955	1585	9,800	Feb. 28, 1955	-	-	-	-	-
1956	1435, 1505	7,900	Mar. 8, 1956	-	-	-	-	-
1957	1505	14,800	July 6 or 7, 1957	-	-	-	-	-
1958	1555	8,750	July 24, 1958	-	-	-	-	-
1959	1625	53,900	Jan. 22, 1959	-	-	-	-	-
1960	1705	26,900	June 24, 1960	-	-	-	-	-

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 1960.

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.--5 years (1955-60), 14.3 cfs.

Extremes.--1955-60: Maximum discharge, 2,730 cfs Jan. 21, 1959 (gage height, 10.30 ft), from rating curve extended above 440 cfs on basis of contracted-opening measurement at gage height 9.70 ft; no flow at times in most years.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	6.79	0.55	0	2.17	-
1956	4.54	22.2	2.53	9.90	46.5	21.9	18.3	33.8	4.38	5.87	1.06	7.24	14.7
1957	1.14	.33	9.83	14.5	21.9	8.72	42.5	39.0	11.6	18.9	.11	0	13.9
1958	0	7.82	45.5	11.7	2.84	7.92	17.7	43.3	18.8	32.3	7.29	9.05	17.2
1959	1.47	4.80	10.4	70.4	30.1	18.4	8.38	5.17	.89	.87	.33	.05	12.6
1960	1.03	2.72	18.8	25.4	27.0	13.1	6.07	6.82	41.9	14.0	2.43	.08	13.2

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	0.65	0.05	0	0.21	-
1956	0.45	2.12	0.25	0.98	4.28	2.16	1.74	3.33	.42	.58	.10	.69	17.10
1957	.01	.03	.97	1.43	1.95	.86	4.05	3.84	1.11	1.87	.01	0	16.13
1958	0	.75	4.43	1.15	.25	.78	1.68	4.27	1.80	3.18	.72	.86	19.92
1959	.15	.48	1.02	6.94	2.68	1.81	.80	.51	.08	.09	.03	.005	14.58
1960	.10	.26	1.86	2.50	2.49	1.29	.58	.65	3.99	1.38	.24	.008	15.35

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-
1955	1555	-	-	-	-	-	-	-	-
1956	1555	1,870	May 28, 1956	0	14.7	1.26	17.10	13.7	15.29
1957	1555	2,080	July 4, 1957	0	13.9	1.19	16.13	17.5	20.35
1958	1555	2,360	July 22, 1958	0	17.2	1.47	19.92	14.1	16.32
1959	1625	2,730	Jan. 21, 1959	0	12.6	1.08	14.58	13.1	15.16
1960	1705	2,540	June 23, 1960	0	13.2	1.13	15.35	-	-

3690. Vernon Fork near Butlerville, Ind.
(Formerly published as North Fork of Vernon Fork near Butlerville)

Location.--Lat 39°02'55", long 85°32'40", in SE $\frac{1}{4}$ sec.17, T.7 N., R.9 E., on left bank 0.3 mile downstream from Muscatatuck State School dam, 1 $\frac{1}{4}$ miles downstream from Brush Creek, and 2 miles northwest of Butlerville.

Drainage area.--87.3 sq mi.

Records available.--February 1942 to September 1960. Published as North Fork of Vernon Fork near Butlerville, 1942-60.

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.--18 years (1942-60), 99.1 cfs (unadjusted).

Extremes.--1942-60: 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 many years.

Remarks.--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 $\frac{1}{4}$ miles upstream. Storage began November 1953.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	11.3	222	235	331	298	233	186	47.0	42.7	9.54	1.32	0.563	134
1952	.326	5.94	190	291	200	197	116	20.2	47.6	3.69	6.95	17.9	91.4
1953	.64	2.19	41.5	217	38.5	135	106	169	4.24	25.2	3.89	1.09	62.6
1954	.97	.57	.83	7.15	18.6	34.3	33.1	42.2	14.9	1.22	3.08	.38	13.1
1955	2.68	1.62	25.7	90.5	311	278	89.8	34.0	27.3	17.4	2.49	8.51	72.6
1956	37.4	145	28.5	53.0	322	136	132	192	72.4	30.5	6.76	21.9	97.0
1957	2.67	2.53	61.3	96.2	154	55.2	314	322	84.0	112	1.97	2.94	100
1958	.65	59.4	355	84.9	29.6	61.9	126	265	166	231	73.2	66.4	128
1959	11.9	47.3	63.7	600	220	123	66.0	30.3	19.7	21.4	3.91	3.36	101
1960	4.78	11.1	73.9	137	169	78.0	48.2	71.9	297	82.6	18.0	3.03	82.3

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.15	2.83	3.10	4.37	3.56	3.08	2.37	0.62	0.55	0.13	0.02	0.007	20.79
1952	.004	.08	2.51	3.84	2.48	2.60	1.48	.27	.61	.05	.09	.23	14.24
1953	.008	.03	.55	2.87	.46	1.78	1.36	2.23	.05	.33	.05	.01	9.73
1954	.01	-	-	-	-	-	-	-	-	-	-	-	-

Note.--Monthly figures of runoff for the period November 1953 to September 1955 previously published in some water-supply papers may be in error because of storage in Brush Creek Reservoir; those figures are not published herein.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean
		Discharge	Date					
1950	-	-	-	-	-	-	-	208
1951	1205	8,030	Nov. 20, 1950	0.3	134	1.53	20.79	111
1952	1235	5,300	Jan. 26, 1952	.2	91.4	1.05	14.24	78.5
1953	1275	3,260	Mar. 4, 1953	.1	62.6	.717	9.73	59.0
1954	1335	840	June 1, 1954	.1	a14.8	b.170	b2.30	15.4
1955	1385	4,300	Feb. 27, 1955	.1	72.6	.832	11.29	87.5
1956	1435	8,330	May 28, 1956	.7	97.0	1.11	15.12	85.1
1957	1505	9,080	May 22, 1957	.4	100	1.15	15.61	130
1958	1555	7,730	July 22, 1958	.3	128	1.47	19.84	103
1959	1625	26,200	Jan. 21, 1959	.5	101	1.16	15.66	98.0
1960	1705	10,400	June 23, 1960	.6	82.3	.943	12.83	-

a Adjusted for change in contents in Brush Creek Reservoir; observed mean was 13.1 cfs.

b Adjusted for change in contents in Brush Creek Reservoir.

Note.--Change in contents in Brush Creek Reservoir did not appreciably affect annual figures of discharge and runoff 1955-60.

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 (revised).

Drainage area--201 sq mi.

Records available--October 1939 to September 1960. 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--21 years (1939-60), 227 cfs.

Extremes--1939-60: Maximum discharge, 56,800 cfs Jan. 21, 1959 (gage height, 32.83 ft, from high-water mark), from rating curve extended above 24,000 cfs on basis of slope-area measurement of peak flow. No flow at times in 1940, 1943-44.

Remarks--Diversion above station for municipal water supply of North Vernon and Vernon. Part of the diversion returned above gage as sewage effluent by North Vernon Sewage Treatment Plant.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	21.8	507	556	874	834	639	480	151	99.5	25.9	1.70	2.43	346
1952	*1.34	12.4	555	677	529	499	288	43.8	99.4	5.91	11.7	*30.5	229
1953	*1.87	3.21	84.6	505	78.5	294	292	387	9.47	61.3	12.8	.64	146
1954	.36	.61	1.57	20.3	51.2	86.0	104	91.5	33.5	.63	5.68	1.00	32.8
1955	11.0	6.85	91.9	257	847	605	198	95.2	105	39.6	3.31	22.0	186
1956	110	407	72.4	156	812	391	326	440	172	79.5	14.3	94.6	253
1957	6.96	6.22	165	258	356	143	718	586	254	383	8.70	5.79	240
1958	2.56	135	807	199	70.0	142	289	622	339	557	184	145	293
1959	28.5	108	159	1466	482	283	147	81.1	34.8	36.3	10.5	5.17	237
1960	14.2	51.4	217	326	414	179	111	156	963	260	36.5	6.39	226

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.13	2.82	3.19	5.01	4.32	3.67	2.66	0.86	0.55	0.15	0.01	0.01	23.38
1952	.008	.07	3.18	3.88	2.84	2.86	1.60	.25	.55	.03	.07	.07	15.51
1953	.01	.02	.49	2.90	.41	1.69	1.62	2.22	.05	.35	.07	.004	9.85
1954	.002	.003	.009	.12	.27	.49	.58	.52	.19	.004	.03	.006	2.22
1955	.06	.04	.53	1.48	4.38	3.47	1.10	.55	.58	.23	.02	.12	12.56
1956	.63	2.25	.42	.89	4.36	2.25	1.81	2.52	.96	.46	.08	.53	17.16
1957	.04	.03	.95	1.48	1.84	.82	3.98	3.37	1.41	2.20	.04	.03	16.19
1958	.01	.75	4.62	1.14	.36	.81	1.61	3.56	1.89	3.19	1.05	.80	19.79
1959	.16	.60	.91	8.41	2.50	1.63	.82	.46	.19	.21	.06	.03	15.98
1960	.08	.29	1.24	1.87	2.22	1.03	.62	.89	5.34	1.49	.21	.04	15.32

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	511	34.54
1951	1205	15,200	Nov. 20, 1950	0.6	346	1.72	23.58	304	20.50
1952	1235	8,400	Mar. 11, 1952	*.2	229	1.14	15.51	189	12.77
1953	1275, 1335	5,970	Jan. 28, 1953	*.2	146	.726	9.83	138	9.33
1954	1335	1,250	Feb. 28, 1954	.1	32.8	.163	2.22	41.9	2.84
1955	1385	10,100	Feb. 27, 1955	.1	186	.925	12.56	225	15.23
1956	1435	15,500	May 28, 1956	1.1	253	1.26	17.16	220	14.88
1957	1505	19,300	July 5, 1957	1.6	240	1.19	16.19	304	20.55
1958	1555	17,800	July 22, 1958	.5	293	1.46	19.79	238	16.08
1959	1625	56,800	Jan. 21, 1959	1.2	237	1.18	15.98	236	15.92
1960	1705	35,300	June 23, 1960	2.8	226	1.12	15.32	-	-

* Revised.

3715. East Fork White River near Bedford, Ind.

Location.--Lat 38°46'10", long 86°24'30", in NE $\frac{1}{4}$ 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. At site used prior to Sept. 24, 1957, 4,060 sq mi.

Records available.--May 1939 to September 1960 (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, 1957, auxiliary water-stage recorder 9.7 miles downstream from base gage.

Average discharge.--7 years (1939-43, 1957-60), 3,485 cfs.

Extremes.--1939-60: Maximum discharge, 68,400 cfs Mar. 9, 1945; maximum gage height, 33.75 ft Mar. 9, 1945, site and datum then in use.

1939-43, 1957-60: Minimum daily discharge, 138 cfs Sept. 7, 1941.

Flood in March 1913 reached a stage of 47.5 ft at former site, from floodmark determined by Corps of Engineers (discharge, 155,000 cfs).

Remarks.--Low flow affected by hydroelectric plant at Williams, during period base gage was at site 9.7 miles downstream. Discharge not computed from October 1943 to September 1957 when gage height was below 6.0 ft at former site.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	11,704	11,358	-	-	-	-	-	-
1952	-	-	-	-	-	-	8,290	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	14,900	-	-	-	-	-	-	-
1956	-	-	-	-	14,380	9,616	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	6,243	-	-	-	-
1958	591	2,947	12,090	5,520	2,509	3,095	4,233	10,680	7,444	9,649	6,822	2,549	5,718
1959	1,533	2,651	3,465	14,350	11,730	6,957	3,819	3,429	2,456	1,005	824	523	4,356
1960	565	1,044	2,579	4,242	7,430	3,554	3,172	2,224	8,584	6,177	1,128	626	3,423

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	3.32	3.12	-	-	-	-	-	-
1952	-	-	-	3.59	3.63	-	2.28	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	4.23	-	-	-	-	-	-	-
1956	-	-	-	-	3.82	2.73	-	-	-	-	-	-	-
1957	-	-	-	-	-	-	-	-	1.80	-	-	-	-
1958	0.18	0.85	3.60	1.65	.67	.92	1.22	3.18	2.14	2.87	2.03	0.74	20.05
1959	.46	.76	1.03	4.28	3.16	2.06	1.10	1.02	.71	.30	.25	.15	15.28
1960	.17	.30	.77	1.27	2.07	1.08	.91	.66	2.48	1.84	.34	.18	12.05

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	36,400	Feb. 25, 1951	-	-	-	-	-	-
1952	1235	37,300	Jan. 31, 1952	-	-	-	-	-	-
1953	1275	17,800	May 21, 1953	-	-	-	-	-	-
1954	1335	4,600	Apr. 11, 1954	-	-	-	-	-	-
1955	1385	24,200	Mar. 5, 1955	-	-	-	-	-	-
1956	1435	31,700	June 2, 1956	-	-	-	-	-	-
1957	1505	41,700	May 26, 1957	-	-	-	-	-	-
1958	1555	34,900	Dec. 23, 1957	528	5,718	1.48	20.05	5,042	17.67
1959	1625	65,100	Jan. 24-25, 1959	420	4,356	1.13	15.28	4,067	14.27
1960	1705	42,300	June 27, 1960	440	3,423	.884	12.05	-	-

3720. North Fork Salt Creek near Belmont, Ind.

Location.--Lat 39°09'00" (revised), 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 1960.

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.--14 years (1946-60), 137 cfs.

Extremes.--1946-60: Maximum discharge, 13,300 cfs June 23, 1960 (gage height, 23.10 ft); no flow at times in most years.

Flood in March 1913 reached a stage of 25.7 ft, from information by local residents.

Revisions.--The momentary maximum discharges for some water years, published in WSP 1305, have been revised as shown in the following table:

Water year	Date	Discharge (cfs)
1946	May 16, 1946	7,160
1947	June 2, 1947	9,140
1949	Jan. 5, 1949	11,300
1950	Jan. 4, 1950	10,200

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	4.44	235	254	361	406	314	266	131	67.0	21.0	2.11	0.950	170
1952	.203	38.8	464	419	270	396	304	337	58.6	4.26	.752	.353	192
1953	.07	.66	9.44	101	72.3	307	206	227	6.25	5.44	.98	.10	78.4
1954	0	.02	.12	30.6	18.8	67.9	119	69.8	52.5	1.02	1.20	.17	30.1
1955	.12	.48	33.1	106	198	199	212	57.2	21.9	11.2	.88	6.96	76.5
1956	13.8	101	27.1	26.1	379	178	259	217	166	23.1	3.62	17.2	116
1957	1.98	12.4	109	131	158	125	515	524	122	63.7	2.48	.48	147
1958	.53	87.2	524	125	33.0	150	235	378	359	268	78.6	24.2	190
1959	12.6	79.3	69.5	508	438	231	115	130	46.5	3.70	11.9	6.45	136
1960	10.5	38.7	77.8	108	231	139	72.7	100	521	93.0	4.97	1.65	115

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.04	2.19	2.44	3.47	3.52	3.02	2.47	1.26	0.62	0.20	0.02	0.009	19.26
1952	.002	.36	4.46	4.02	2.43	3.80	2.82	3.24	.54	.04	.007	.003	21.72
1953	.0007	.006	.09	.97	.63	2.95	1.92	2.18	.06	.05	.009	.0009	8.87
1954	0	.0002	.001	.29	.16	.65	1.11	.67	.49	.01	.01	.002	3.39
1955	.001	.004	.32	1.02	1.72	2.70	1.98	.55	.20	.11	.008	.06	8.67
1956	.13	.94	.26	.25	3.41	1.71	2.41	2.09	1.54	.22	.03	.16	13.15
1957	.02	.11	1.05	1.26	1.58	1.20	4.79	5.04	1.14	.61	.02	.004	16.62
1958	.005	.61	5.04	1.20	2.9	1.44	2.19	3.63	3.34	.76	.23	.21	21.50
1959	.12	.74	.67	4.88	3.80	2.21	1.07	1.24	.43	.04	.11	.06	15.37
1960	.10	.36	.75	1.04	2.07	1.34	.68	.96	4.84	.89	.05	.02	13.10

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	264	29.87
1951	1205, 1335	5,100	Feb. 21, 1951	0.5	170	1.42	19.26	172	19.41
1952	1235, 1705	11,800	May 24, 1952	0	192	1.60	21.72	150	17.00
1953	1275	2,780	Mar. 4, 1953	0	78.4	.653	8.87	77.6	8.77
1954	1335	825	Jan. 27, 1954	0	30.1	.251	3.39	32.9	3.71
1955	1385	2,220	Mar. 21, 1955	0	76.5	.637	8.67	85.4	9.68
1956	1435	3,030	May 28, 1956	.7	116	.967	13.15	115	13.00
1957	1505	6,340	Apr. 4, 1957	.1	147	1.22	16.62	188	21.30
1958	1555	5,920	June 14, 1958	.2	190	1.58	21.50	152	17.18
1959	1625, 1705	10,600	Jan. 21, 1959	.7	136	1.13	15.37	133	15.05
1960	1705	13,300	June 23, 1960	.4	115	.958	13.10	-	-

3725. Salt Creek near Harrodsburg, Ind.

Location.--Lat 39°00'40", long 86°31'05", in SE $\frac{1}{4}$ sec.28, T.7 N., R.1 W., on left bank on downstream side of county road bridge, 1.5 miles upstream from Clear Creek and 1.6 miles east of Harrodsburg.

Drainage area.--441 sq mi.

Records available.--May 1955 to September 1960.

Gage.--Wire-weight gage read twice daily. Datum of gage is 482.41 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Average discharge.--5 years (1955-60), 560 cfs.

Extremes.--1955-60: Maximum discharge, 22,000 cfs June 25, 1960 (gage height, 32.76 ft, from graph based on gage readings); minimum, 0.9 cfs Sept. 27, 1960; minimum gage height, 2.11 ft Sept. 24, 25, 1959.

Flood in March 1913 reached a stage of 38.1 ft, from information by local resident.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	77.1	113	4.14	14.2	-
1956	75.8	528	118	98.5	1,843	811	1,060	767	610	75.3	61.5	129	507
1957	13.4	61.9	758	621	635	483	1,776	1,600	413	167	13.6	13.7	545
1958	9.41	510	2,323	500	157	530	625	1,692	849	1,402	481	166	778
1959	69.8	411	387	1,833	1,692	853	406	562	291	18.8	53.4	28.8	527
1960	36.1	143	393	508	968	530	304	385	1,797	281	14.8	1.59	443

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	0.20	0.30	0.01	0.04	-
1956	0.20	1.34	0.31	0.26	4.51	2.12	2.68	2.01	1.54	.20	.16	.33	15.66
1957	.03	.16	1.98	1.63	1.50	1.27	4.50	4.18	1.05	.44	.04	.03	16.81
1958	.02	1.29	6.08	1.30	.37	1.38	1.58	4.39	2.15	3.67	1.28	.42	23.93
1959	.18	1.04	1.01	4.80	4.00	2.22	1.03	.95	.74	.05	.14	.07	16.23
1960	.10	.36	1.03	1.33	2.37	1.38	.77	1.01	4.54	.73	.04	.004	13.66

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-
1955	-	-	-	-	-	-	-	-	-
1956	1435	*5,900	May 30, 1956	3.1	507	1.15	15.66	518	15.98
1957	1505	9,680	May 24, 1957	1.7	545	1.24	16.81	715	22.03
1958	1555	7,940	Dec. 22, 1957	1.2	778	1.76	23.93	611	18.77
1959	1625, 1705	17,900	Jan. 23, 1959	6.9	527	1.20	16.23	503	15.49
1960	1705	22,000	June 25, 1960	1.0	443	1.00	13.66	-	-

* Revised.

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 1960.

Gage.--Wire-weight gage. 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.--14 years (1939-50, 1957-60), 696 cfs.

Extremes.--1939-50, 1957-60: Maximum discharge, 20,400 cfs Jan. 7, 1949 (gage height, 33.06 ft); minimum, 0.7 cfs Aug. 18, 1940.

Flood in January 1937 reached a stage of 34.3 ft (information by Corps of Engineers).

Remarks.--Stage-discharge relation affected at times by backwater from East Fork White River or return flow from overbank storage.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	585	2,465	2,143	595	241	22.4	31.7	-
1958	18.0	740	3,069	726	242	718	815	2,194	1,074	1,916	684	218	1,044
1959	92.5	507	526	2,456	2,247	1,097	519	464	388	25.0	57.6	46.2	693
1960	66.0	202	530	694	1,205	670	416	502	1,966	414	24.9	9.18	554

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1957	-	-	-	-	-	1.16	4.73	4.24	1.14	0.48	0.04	0.06	-
1958	0.04	1.42	6.08	1.44	0.43	1.42	1.56	4.35	2.06	3.79	1.36	.42	24.37
1959	.18	.97	1.04	4.86	4.02	2.17	1.00	.92	.74	.05	.11	.09	16.15
1960	.13	.39	1.05	1.37	2.23	1.33	.80	.99	3.77	.82	.05	.02	12.95

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1958	1555	9,200	Dec. 22, 1957	6.5	1,044	1.79	24.37	816	19.02
1959	1625	14,100	Jan. 23, 1959	7.2	693	1.19	16.15	666	15.53
1960	1705	16,500	June 26, 1960	7.2	554	.952	12.95	-	-

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 & 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 1960. 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.--46 years (1903-5, 1909-16, 1923-60), 5,437 cfs.

Extremes.--1903-6, 1908-16, 1923-60: 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.--Prior to 1959 regulation at low flow by powerplant 17 miles above station.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1,415	10,334	13,090	17,650	18,280	14,200	13,440	4,337	2,626	3,261	902	511	8,272
1952	405	1,443	13,940	13,910	17,660	15,780	9,811	3,752	3,739	1,532	583	580	6,902
1953	393	432	1,283	5,608	3,978	9,647	5,947	7,906	1,666	1,817	612	307	3,307
1954	268	308	389	705	1,108	1,804	3,736	2,191	1,414	365	357	233	1,067
1955	303	293	750	4,104	7,663	19,090	6,260	2,927	2,787	1,990	764	600	3,947
1956	3,035	9,307	3,140	1,552	16,150	11,150	8,524	3,889	9,596	3,419	1,258	1,431	5,970
1957	614	622	3,059	4,256	6,205	4,082	17,012	13,582	7,496	7,885	1,354	833	5,568
1958	599	4,141	17,150	7,530	3,270	4,475	5,495	14,370	8,959	15,520	8,630	3,190	7,669
1959	1,899	3,529	4,545	17,300	15,440	8,840	4,870	4,440	3,483	1,130	1,133	703	5,725
1960	775	1,530	3,588	5,720	9,449	4,542	4,148	3,325	10,310	8,970	1,306	699	4,508

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.33	2.33	3.05	4.11	3.84	3.30	3.03	1.01	0.59	0.76	0.21	0.12	22.68
1952	.09	.33	3.24	3.24	3.84	3.67	2.21	.87	.84	.36	.14	.13	18.96
1953	.09	.10	.30	1.31	.84	2.25	1.34	1.84	.38	.42	.14	.07	9.08
1954	.06	.07	.09	.16	.23	.42	.84	.51	.32	.09	.08	.05	2.92
1955	.07	.07	.17	.95	1.61	4.44	1.41	.68	.63	.46	.18	.14	10.81
1956	.71	2.10	.73	.36	3.52	2.59	1.92	.90	2.16	.80	.29	.32	16.40
1957	.14	.14	.71	.99	1.30	.95	3.83	3.16	1.68	1.83	.31	.19	15.23
1958	.14	.93	3.99	1.75	.69	1.04	1.24	3.34	2.01	3.15	2.01	.72	21.01
1959	.44	.79	1.06	4.50	3.25	2.05	1.10	1.03	.78	.26	.26	.16	15.68
1960	.18	.34	.83	1.33	2.06	1.06	.93	.77	2.32	2.09	.30	.16	12.37

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	11,652	31.93
1951	1205	42,700	Feb. 26, 1951	400	8,272	1.67	22.68	7,528	20.63
1952	1235	41,500	Feb. 2, 1952	354	6,902	1.39	18.96	5,746	15.79
1953	1275	19,900	May 21, 1953	230	3,307	.668	9.08	3,211	8.81
1954	1335	5,580	Apr. 12, 1954	158	1,069	.216	2.92	1,101	3.01
1955	1385	30,600	Mar. 6, 1955	138	3,947	.797	10.81	5,122	14.04
1956	1435	34,200	June 4, 1956	479	5,970	1.21	16.40	5,046	13.85
1957	1505	45,800	May 28, 1957	408	5,568	1.12	15.23	7,053	19.30
1958	1555	40,900	Dec. 27, 1957	440	7,669	1.55	21.01	6,658	18.24
1959	1625	68,200	Jan. 26-27, 1959	372	5,725	1.16	15.68	5,384	14.74
1960	1705	40,900	June 29, 1960	548	4,508	.910	12.37	-	-

3740. White River at Petersburg, Ind.

Location.--Lat 38°30'39", long 87°17'22", in SW $\frac{1}{4}$ 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 Frides Creek, 1 mile north of Petersburg, and at mile 47.7.

Drainage area.--11,139 sq mi.

Records available.--October 1927 to September 1960. Monthly discharge 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.--33 years (1927-60), 11,570 cfs.

Extremes.--1927-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	3,943	20,092	25,018	31,453	32,439	29,528	25,973	11,003	5,539	8,603	3,230	1,718	16,449
1952	1,453	5,876	26,184	25,181	37,779	34,439	25,047	9,182	10,561	5,540	1,989	2,247	15,365
1953	1,596	1,315	3,274	9,005	7,656	22,680	13,810	15,380	4,975	5,630	2,587	1,138	7,439
1954	871	864	1,108	1,659	2,876	4,124	8,833	4,787	3,126	1,118	1,096	1,073	2,618
1955	1,214	1,175	1,863	9,273	11,360	32,430	15,910	7,309	6,687	5,271	2,242	1,548	6,016
1956	6,183	17,710	7,430	5,400	28,700	24,360	16,290	9,180	21,330	8,224	2,946	2,646	12,420
1957	1,282	1,300	5,209	8,106	12,550	9,219	38,670	28,780	23,190	23,940	4,822	2,910	13,300
1958	2,540	10,560	36,680	19,900	7,615	9,571	10,440	23,710	24,480	25,620	19,090	6,444	16,500
1959	4,328	8,064	9,450	28,510	35,780	20,600	13,220	12,580	8,453	3,050	3,678	2,147	12,350
1960	2,395	4,038	8,302	12,910	20,360	10,200	10,620	8,460	16,850	18,310	3,397	2,024	9,785

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.41	2.01	2.59	3.26	3.03	3.06	2.60	1.14	0.55	0.89	0.33	0.17	20.04
1952	.15	.59	2.71	2.61	3.66	3.56	2.51	.95	1.06	.55	.21	.23	18.79
1953	.14	.13	.34	.93	.73	2.35	1.38	1.59	.50	.80	.25	.11	9.05
1954	.09	.09	.11	.17	.27	.43	.88	.50	.31	.12	.11	.11	3.19
1955	.13	.12	.19	.98	1.06	3.36	1.60	.76	.67	.55	.23	.16	9.79
1956	.64	1.77	.77	.35	2.78	2.52	1.83	.95	2.13	.85	.30	.27	15.16
1957	.13	.13	.54	.84	1.18	.95	3.87	2.97	2.32	2.48	.50	.29	16.20
1958	.26	1.06	3.79	2.06	.71	.99	1.05	2.66	2.46	2.65	1.97	.65	20.11
1959	.45	.81	.98	2.95	3.34	2.13	1.33	1.30	.85	.32	.38	.22	15.06
1960	.25	.41	.86	1.34	1.97	1.06	1.06	.88	1.68	1.69	.35	.20	11.95

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches		
		Discharge	Date								
1950	-	-	-	-	-	-	-	25,362	30.95		
1951	1205	69,300	Feb. 28, 1951	1,360	16,449	1.48	20.04	15,168	18.48		
1952	1235	76,500	Feb. 4, 1952	1,120	15,365	1.38	18.79	13,050	15.95		
1953	1275	40,500	Mar. 10, 1953	920	7,439	.668	9.05	7,175	8.73		
1954	1335	12,300	Apr. 11, 1954	660	2,618	.235	3.19	2,737	3.34		
1955	1395	45,600	Mar. 7, 1955	670	8,018	.720	9.79	10,270	12.53		
1956	1435	60,000	June 5, 1956	1,490	12,420	1.12	15.16	10,470	12.78		
1957	1505	84,000	May 28, 1957	990	13,300	1.19	16.20	16,840	20.51		
1958	1555	92,300	Dec. 26, 1957	1,910	16,500	1.48	20.11	14,130	17.24		
1959	1625	100,000	Jan. 28, 1959	1,400	12,350	1.11	15.06	11,760	14.34		
1960	1705	57,900	June 30, 1960	1,550	9,785	.878	11.95	-	-		

3755. Patoka River at Jasper, Ind.

Location.--Lat 38°24'49", long 86°52'36", in SE¹ 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. At site used prior to October 1956, 270 sq mi.

Records available.--November 1947 to September 1960.

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 1,100 cfs).

Average discharge.--12 years (1948-60), 386 cfs.

Extremes.--1947-60: Maximum discharge, 9,150 cfs Jan. 24, 1959; maximum gage height, 19.04 ft Jan. 23, 1959, present site and datum, 13.73 ft Jan. 24, 1959, at supplementary gage; no flow at times during 1948, 1952-56.

Maximum stage known, 15.9 ft (at former site) in March 1913, from floodmark furnished by local residents (discharge, 16,000 cfs). Maximum stage since at least 1925 and prior to 1947, 20 ft (at present site) in 1925 (information from local residents).

Remarks.--Flow slightly regulated by Beaver Creek Reservoir, whose outlet enters the Patoka River 1.2 miles above gage. City of Jasper diverted an average of about 1 cfs for municipal supply above gage site used prior to Sept. 18, 1956.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	17.8	777	600	1,345	1,298	1,474	1,008	191	141	50.3	39.3	25.3	576
1952	3.74	350	1,506	757	952	1,211	344	37.5	180	4.22	0	8.39	446
1953	.05	2.42	59.8	539	280	737	559	529	8.66	27.0	1.87	0	229
1954	0	0	.17	70.0	81.4	187	217	97.6	35.2	.07	6.83	72.0	635.6
1955	21.1	11.6	133	239	687	1,417	622	462	80.0	55.9	5.24	10.7	310
1956	236	355	82.0	108	1,839	830	684	392	102	32.6	36.1	32.8	387
1957	5.15	4.57	44.1	319	678	187	1,043	1,111	380	51.9	8.93	4.88	316
1958	3.45	*690	*1489	*443	*163	*523	*410	791	52.5	787	408	99.2	*493
1959	85.4	211	314	1,577	738	507	208	209	76.6	10.1	19.9	8.91	329
1960	28.8	57.0	341	497	443	423	269	240	426	283	6.13	1.35	251

* Revised.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.08	3.21	2.56	5.74	5.01	6.29	4.17	0.81	0.58	0.21	0.17	0.10	28.93
1952	.02	1.45	6.43	3.23	3.80	5.17	1.42	.16	.75	.02	0	.03	22.48
1953	.0002	.01	.26	2.30	1.08	3.15	2.31	2.26	.04	.12	.008	0	11.54
1954	#0	#0	#.0007	#.30	#.31	#.80	#.90	#.42	#.14	#.0003	#.03	#.30	#3.20
1955	#.09	#.05	#.57	#1.02	#2.64	#6.05	#2.57	#1.97	#.33	#.24	#.02	#.04	#15.59
1956	1.01	1.46	.35	.46	7.34	3.54	2.82	1.67	.42	.14	.15	.13	19.49
1957	.02	.02	.20	1.43	2.75	.84	4.53	4.98	1.65	.23	.04	.02	16.71
1958	.02	*2.99	*6.88	*1.98	.66	*2.35	*1.78	3.55	.23	3.53	1.83	.43	*26.03
1959	.38	.32	1.41	7.08	2.99	2.27	.90	.94	.33	.04	.09	.04	17.39
1960	.13	.25	1.53	2.22	1.86	1.90	1.17	1.08	1.85	1.27	.03	.006	13.30

* Revised.

Not previously published.

Note.--Prior to Sept. 18, 1956, runoff during periods of low flow was affected by diversion above gage.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	714	35.92
1951	1205	4,760	Mar. 21, 1951	1.0	576	2.13	28.93	616	30.98
1952	1235	3,880	Mar. 14, 1952	0	446	1.65	22.48	295	14.85
1953	1275	1,640	Mar. 8, 1953	0	229	.848	11.54	224	#11.27
1954	1335	950	Mar. 2, 1954	0	63.6	*.236	*3.20	77.7	*3.91
1955	1385	2,940	Mar. 3, 1955	0	310	#1.15	#15.59	352	#17.70
1956	1435	3,100	Feb. 29, 1956	0	387	1.43	19.49	336	17.79
1957	1505	6,900	May 25, 1957	.6	316	1.23	16.71	*495	*26.16
1958	1555	4,250	Dec. 22, 1957	1.6	*493	*1.92	*26.03	*361	*19.05
1959	1625	9,150	Jan. 24, 1959	1.4	329	1.28	17.39	314	16.59
1960	1705	1,710	Jan. 19, 1960	.7	251	.977	13.30	-	-

* Revised.

Not previously published.

3765. Patoka River near Princeton, Ind.

Location.--Lat 38°23'30", long 87°32'55", in NE 1/4 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 1960. 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 394.09 ft 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.--26 years (1934-60), 1,020 cfs.

Extremes.--1934-60: 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.--Since July 1941 there have been only occasional diversions above gage for municipal supply by city of Princeton.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	60.4	1,560	1,968	3,483	2,899	4,018	2,728	775	303	125	55.0	182	1,505
1952	23.9	763	5,755	2,768	2,842	3,353	1,783	187	571	36.8	12.6	61.4	1,341
1953	11.3	18.7	136	644	834	1,910	1,140	1,560	63.9	73.3	30.7	12.0	554
1954	10.0	14.3	28.5	209	192	306	544	257	83.1	18.0	33.8	146	151
1955	51.8	21.8	155	571	1,109	3,615	2,205	1,447	511	385	58.6	77.5	850
1956	661	1,064	236	154	3,724	3,495	1,544	1,142	232	169	102	110	1,039
1957	55.8	36.5	114	576	1,820	577	2,907	1,226	3,172	667	85.4	21.9	924
1958	27.0	1,348	5,518	2,348	872	1,178	1,404	2,187	294	3,075	2,004	240	1,555
1959	221	554	735	3,081	3,073	1,481	523	671	254	120	116	182	906
1960	151	172	846	1,447	1,240	1,060	917	685	1,170	636	55.2	16.8	698

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.09	2.13	2.78	4.93	3.71	5.68	3.73	1.10	0.41	0.18	0.08	0.25	25.07
1952	.03	1.04	5.28	3.92	3.76	4.72	2.44	.26	.78	.05	.02	.08	22.38
1953	.02	.03	.19	1.19	1.07	2.70	1.57	2.21	.09	.10	.04	.02	9.23
1954	.01	.02	.04	.30	.25	.43	.74	.36	.09	.03	.05	.20	2.52
1955	.07	.03	.22	.81	1.42	5.12	3.02	2.05	.70	.54	.08	.11	14.17
1956	.94	1.42	.33	.22	4.93	4.95	2.11	1.61	.32	.24	.14	.15	17.36
1957	.08	.05	.16	.82	2.32	.82	3.98	1.73	4.34	.94	.12	.03	15.39
1958	.04	1.84	4.98	3.32	1.11	1.67	1.92	3.09	.40	4.35	2.84	.33	25.89
1959	.31	.76	1.04	4.36	3.93	2.10	.72	.95	.35	.17	.16	.25	15.10
1960	.21	.24	1.20	2.05	1.64	1.50	1.26	.97	1.61	.90	.08	.02	11.68

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	2,181	36.33
1951	1205, 1385	5,600	Jan. 22, 1951	7.0	1,505	1.85	25.07	1,587	26.43
1952	1275, 1385	6,680	Mar. 24, 1952	6.5	1,341	1.65	22.38	974	16.27
1953	1275	2,360	Mar. 15, 18, 1953	5.2	554	.680	9.23	544	9.06
1954	1335	1,030	Apr. 21, 1954	1.0	151	.185	2.52	166	2.77
1955	1385	4,210	Mar. 24, 1955	7.0	850	1.04	14.17	992	16.54
1956	1435	5,600	Feb. 29, 1956	11	1,039	1.27	17.36	896	14.96
1957	1505	6,060	June 2, 1957	11	924	1.13	15.39	1,319	21.96
1958	1555	6,680	Dec. 27, 1957	9.8	1,555	1.91	25.89	1,270	21.14
1959	1675	9,490	Jan. 29, 1959	15	906	1.11	15.10	878	14.64
1960	1705	2,270	Mar. 30, 1960	9.8	698	.856	11.68	-	-

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 1960. 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.--33 years (1927-60), 26,890 cfs.

Extremes.--1927-60: 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).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13,230	35,170	51,510	63,860	66,810	78,500	59,900	31,640	15,530	29,770	9,979	6,908	38,440
1952	6,022	19,320	43,430	58,430	78,180	74,420	64,600	28,850	37,180	14,450	6,909	6,602	36,350
1953	4,254	4,274	9,757	18,000	18,320	57,390	36,980	32,240	13,750	15,590	6,351	3,033	18,370
1954	2,561	2,702	2,987	3,745	6,361	8,643	19,450	11,240	9,598	3,841	3,457	3,303	6,465
1955	7,688	4,429	5,355	24,630	19,060	58,480	36,190	19,320	20,410	14,520	6,207	3,932	18,370
1956	15,030	34,300	16,460	7,426	51,340	53,510	33,300	25,560	41,450	18,970	7,745	5,645	25,730
1957	3,535	3,795	10,100	15,390	25,790	21,730	90,340	61,130	56,160	69,750	13,220	7,914	31,530
1958	8,220	24,710	75,980	53,910	18,040	24,300	23,460	39,450	74,500	73,580	54,980	15,730	40,820
1959	10,430	19,660	21,960	44,490	102,900	55,400	39,430	42,240	18,510	8,841	8,019	5,035	30,940
1960	6,877	12,170	19,580	30,660	47,560	23,150	37,610	23,510	35,560	37,730	9,094	4,948	23,890

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.53	1.37	2.08	2.57	2.43	3.16	2.34	1.28	0.61	1.20	0.40	0.27	18.23
1952	.24	.75	1.75	2.36	2.95	3.00	2.52	1.16	1.45	.58	.28	.26	17.30
1953	.17	.17	.39	.73	.67	2.31	1.44	1.30	.54	.63	.26	.12	8.73
1954	.10	.11	.12	.15	.23	.35	.76	.45	.37	.15	.14	.13	3.06
1955	.31	.17	.22	.99	.69	2.36	1.41	.78	.80	.59	.25	.15	8.72
1956	.61	1.34	.66	.30	1.94	2.16	1.30	1.03	1.62	.76	.31	.22	12.25
1957	.14	.15	.41	.62	.94	.88	3.52	2.46	2.19	2.61	.53	.31	14.96
1958	.33	.96	3.06	2.17	.66	.98	.92	1.59	2.91	2.97	2.22	.61	19.36
1959	.42	.77	.89	1.79	3.75	2.23	1.54	1.70	.72	.36	.32	.20	14.69
1960	.28	.47	.79	1.24	1.79	.93	1.47	.94	1.39	1.52	.37	.19	11.38

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	60,250	28.59
1951	1205	164,000	Mar. 1-2, 1951	4,690	38,440	1.34	18.23	35,840	16.99
1952	1235	127,000	Feb. 6, 1952	4,010	36,350	1.27	17.30	32,120	15.29
1953	1275	74,200	Mar. 12, 1953	2,520	18,370	.642	8.73	17,520	8.33
1954	1335	27,600	Apr. 16, 1954	2,050	6,465	.226	3.06	7,245	3.43
1955	1385	74,100	Mar. 9, 1955	1,980	18,370	.642	8.72	22,390	10.63
1956	1435	91,500	Mar. 4, 1956	3,860	25,730	.900	12.25	21,710	10.34
1957	1505	158,000	Apr. 15, 1957	3,170	31,550	1.10	14.96	39,240	18.61
1958	1555	186,000	June 22, 1958	5,080	40,820	1.43	19.36	36,010	17.11
1959	1625	174,000	Feb. 18, 1959	3,320	30,940	1.08	14.69	29,820	14.15
1960	1705	107,000	July 1, 1960	4,160	23,890	.835	11.38	-	-

3780. Bonpas Creek at Browns, Ill.

Location.--Lat 38°22'50", long 87°58'35", in SW 1/4 sec. 33, T.1 S., R.14 W., at Browns, on left bank 30 ft upstream from concrete dam of Albion municipal waterplant, 100 ft upstream from Nigger Creek, 300 ft upstream from State Highway 15, and a quarter of a mile upstream from Southern Railway bridge.

Drainage area.--228 sq mi (revised).

Records available.--October 1940 to September 1960.

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.--20 years (1940-60), 231 cfs.

Extremes.--1940-60: Maximum discharge, 5,490 cfs Mar. 7, 1945 (gage height, 20.40 ft); no flow at times most years.

Remarks.--Albion municipal waterplant diverts about 0.1 cfs at gage; diversion not included in records.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.55	585	229	627	978	645	254	18.6	49.7	34.1	32.1	3.85	283
1952	79.1	483	753	474	423	1,125	350	12.8	245	15.2	0.76	0.09	330
1953	0	35	18.5	113	31.5	664	302	458	8.22	0	0	0	134
1954	0	0	0	1.34	2.89	28	57.3	32.3	17.6	5.43	45.4	41.0	16.9
1955	50.8	.44	153	153	241	756	628	75.8	81.2	131	22.4	10.5	192
1956	34.2	142	10.7	16.6	708	250	249	387	148	9.23	4.15	11.0	161
1957	0	5.06	23.5	59.8	308	102	853	484	372	252	39.2	53.6	211
1958	15.1	520	1,127	360	51.0	477	226	239	99.8	1,368	213	67.5	401
1959	3.81	151	186	485	532	253	147	372	20.6	1.50	86.5	81.6	192
1960	45.1	78.2	511	317	276	346	119	242	253	227	3.53	.15	202

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.003	2.86	1.16	3.17	4.47	3.26	1.24	0.09	0.24	0.17	0.16	0.02	16.84
1952	.40	2.36	3.81	2.40	2.00	5.69	1.71	.06	1.20	.08	.004	.0005	19.71
1953	0	.002	.09	.57	.14	3.36	1.48	2.32	.03	.001	0	0	7.99
1954	0	0	0	.007	.01	.001	.28	.16	.09	.03	.23	.20	1.01
1955	.26	.002	.77	.77	1.10	3.82	3.07	.38	.40	.66	.11	.05	11.39
1956	.17	.69	.05	.08	3.35	1.26	1.96	.72	.05	.02	.02	.05	9.62
1957	0	.02	.12	.30	1.40	.52	4.17	2.45	1.82	1.27	.20	.26	12.55
1958	.08	2.54	5.70	1.82	2.43	2.41	1.11	1.21	.49	6.91	1.08	.33	23.91
1959	.02	.74	.94	2.45	2.43	1.28	.72	1.88	.10	.008	.44	.40	11.41
1960	.23	.38	2.58	1.60	1.31	1.75	.58	1.22	1.24	1.15	.02	.0008	12.06

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches	
		Discharge	Date							
1950	-	-	-	-	-	-	-	508	30.25	
1951	1205	3,040	Feb. 22, 1951	0	283	1.24	16.84	326	19.39	
1952	1235	3,270	Mar. 12, 1952	0	330	1.45	19.71	222	13.24	
1953	1275	2,620	Mar. 5, 1953	0	134	.588	7.99	133	7.90	
1954	1335	584	Apr. 7, 1954	0	16.9	.074	1.01	34.2	2.04	
1955	1385	2,320	Apr. 25, 1955	0	192	.842	11.39	190	11.27	
1956	1435	2,360	May 9, 1956	0	161	.708	9.62	148	8.85	
1957	1505	3,350	Apr. 5, 1957	0	211	.925	12.53	348	20.71	
1958	1555	3,300	Dec. 20, 1957	0	401	1.76	23.91	290	17.29	
1959	1625	2,140	Jan. 23, 1959	0	192	.842	11.41	217	12.90	
1960	1705	1,580	Jan. 16, 1960	0	202	.886	12.06	-	-	

3795. Little Wabash River below Clay City, Ill.
(Formerly published as Little Wabash River at Wilcox)

Location.--Lat 38°38'05", long 88°17'50", in SE $\frac{1}{4}$ sec.3, T.2 N., R.8 E., on right bank 300 ft downstream from highway bridge, 0.3 mile downstream from Big Muddy Creek, and 5 miles southeast of Clay City.

Drainage area.--1,130 sq mi, approximately.

Records available.--August 1914 to September 1960. Prior to October 1958, published as "at Wilcox." Monthly discharge only for some periods, published in WSP 1305.

Gage.--Water-stage recorder. Datum of gage is 392.29 ft above mean sea level, datum of 1929. Prior to Aug. 2, 1934, chain gage and Aug. 2, 1934, to Jan. 2, 1947, wire-weight gage, at highway bridge 300 ft upstream at same datum.

Average discharge.--46 years (1914-60), 899 cfs.

Extremes.--1914-60: Maximum discharge, 47,000 cfs Jan. 5, 1950 (gage height, 26.67 ft); no flow Sept. 3-19, 1954.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	50.9	726	808	1,949	4,221	2,047	1,496	164	307	775	34.9	80.5	1,033
1952	141	861	886	1,413	1,476	2,918	2,407	131	652	79.5	12.4	18.3	912
1953	1.69	11.5	28.3	42.5	82.9	1,591	806	651	113	65.4	9.54	107.79	286
1954	.30	1.07	1.73	16.5	22.0	4.92	56.9	63.4	29.9	16.5	31.1	107.79	29.3
1955	252	10.7	146	332	502	904	1,114	238	561	511	29.7	127	392
1956	388	835	110	35.5	2,466	828	399	647	635	427	236	67.2	580
1957	4.54	18.9	823	577	944	928	5,407	2,810	4,010	2,583	283	117	1,538
1958	181	1,231	4,895	1,576	401	1,470	639	948	549	2,364	1,562	162	1,347
1959	120	752	330	1,357	3,142	1,249	714	606	589	121	322	62.9	762
1960	50.1	344	1,113	894	1,358	1,297	1,172	806	1,224	1,162	30.4	7.84	796

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.05	0.72	0.82	1.99	3.89	2.09	1.48	0.17	0.30	0.79	0.04	0.06	12.42
1952	.14	.85	.90	1.44	1.41	2.98	2.38	.13	.64	.08	.01	.02	10.98
1953	.002	.01	.03	.04	.08	1.62	.80	.66	.11	.07	.01	.0008	3.43
1954	.0003	.001	.002	.02	.02	.005	.06	.06	.03	.02	.03	.11	.36
1955	.26	.01	.15	.34	.46	.92	1.10	.24	.55	.52	.03	.13	4.71
1956	.40	.82	.11	.04	2.35	.84	.39	.66	.63	.44	.24	.07	6.99
1957	.005	.02	.84	.59	.87	.95	6.34	2.87	3.96	2.64	.29	.12	18.50
1958	.18	1.22	4.99	1.61	.37	1.50	.63	.97	.54	2.41	1.59	.16	16.17
1959	.12	.74	.34	1.38	2.89	1.27	.70	.62	.56	.12	.33	.06	9.13
1960	.05	.34	1.14	.91	1.30	1.32	1.16	.82	1.21	1.19	.03	.008	9.48

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	1,796	21.57
1951	1205	14,600	Feb. 22, 1951	16	1,033	0.914	12.42	1,059	12.72
1952	1235	8,120	Mar. 13, Apr. 6	1.5	912	0.807	10.98	758	9.13
1953	1275	4,810	Mar. 6, 1953	2	286	.253	3.43	283	3.39
1954	1335	1,440	Sept. 21, 1954	0	25.3	.026	.36	63.7	.78
1955	1385	4,650	Apr. 25, 1955	.3	392	.347	4.71	469	5.62
1956	1435	6,520	Feb. 27, 1956	7.2	580	.513	6.99	541	6.52
1957	1505	27,100	June 17, 1957	2.8	1,538	1.36	18.50	1,998	24.02
1958	1555, 1625	27,100	Dec. 21, 1957	6.7	1,547	1.19	16.17	914	10.98
1959	1625	14,100	Feb. 13, 1959	5.8	762	.674	9.13	789	9.46
1960	1705	7,920	July 2, 1960	4.2	786	.696	9.48	-	-

WABASH RIVER BASIN

3804.75. Horse Creek near Keenes, Ill.

Location--Lat 38°22'34", long 88°39'44", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.4, T.2 S., R.5 E., on right bank at downstream side of bridge on township road, 0.5 mile downstream from Gregory Branch, 3 miles northwest of Keenes, and 5 miles upstream from mouth.

Drainage area--97.2 sq mi (revised).

Records available--June 1959 to September 1960.

Gage--Water-stage recorder. Datum of gage is 395.35 ft above mean sea level, datum of 1929.

Extremes--1959-60: Maximum discharge, 2,220 cfs Dec. 18, 1959 (gage height, 18.82 ft); no flow for many days.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	1.05	128	8.78	-
1960	7.20	35.9	242	84.3	80.1	227	33.6	38.4	9.96	22.5	1.83	.07	65.6

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1959	-	-	-	-	-	-	-	-	-	0.01	1.52	0.10	-
1960	0.09	0.41	2.87	1.00	0.89	2.69	0.39	0.46	0.11	.27	.02	.0008	9.20

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1959	1705	2,040	Aug. 17, 1959	0	-	-	-	-	-
1960	1705	2,220	Dec. 18, 1959	0	65.6	0.678	9.20	-	-

a Maximum for period June to September.

3805. Skillet Fork at Wayne City, Ill.

Location.--Lat 38°31'25", long 88°35'00", in SW $\frac{1}{4}$ sec.7, T.2 S., R.6 E., on right bank an eighth of a mile downstream from Shoe Creek, half a mile downstream from bridge on State Highway 15, 0.9 mile upstream from Southern Railway bridge, and 1 mile north of Wayne City.

Drainage area.--464 sq mi (revised).

Records available.--August 1908 to December 1912, June 1914 to September 1921, June 1928 to September 1960.

Gage.--Water-stage recorder and concrete dam. Datum of gage is 383.15 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Sept. 30, 1921, chain gage at Southern Railway bridge 0.9 mile downstream at datum about 3.0 ft lower. June 11, 1928, to Oct. 4, 1939, chain gage at highway bridge half a mile upstream at datum 2.8 ft lower.

Average discharge.--43 years (1908-12, 1914-21, 1928-60), 398 cfs.

Extremes.--1908-12, 1914-21, 1928-60: Maximum discharge, 20,000 cfs Jan. 5, 1950 (gage height, 22.16 ft); no flow at times during 1908, 1934, 1936-37, 1940, 1944, 1954.

Remarks.--Wayne City municipal waterplant diverts about 0.02 cfs at gage since November 1954; diversion not included in records.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	6.09	505	496	874	1,980	1,008	520	26.3	82.1	93.1	4.75	35.2	459
1952	173	790	708	539	548	1,391	899	32.0	108	13.3	1.04	9.47	434
1953	.97	8.09	20.4	85.5	70.1	873	615	474	17.6	1.98	.34	.10	182
1954	.87	.13	.29	1.91	5.21	1.96	11.6	160	35.1	8.92	27.5	131	32.1
1955	148	5.09	260	138	421	803	1,007	217	304	158	19.5	1.14	289
1956	.75	124	5.56	3.04	786	161	223	168	62.5	319	67.3	68.2	148
1957	.42	6.26	320	205	780	488	2,495	2,046	779	366	99.5	40.7	632
1958	11.7	630	2,202	720	142	975	435	482	207	820	345	63.6	593
1959	19.1	266	214	796	1,073	560	410	660	16.9	15.4	483	48.6	377
1960	26.0	203	1,086	380	462	837	317	231	108	372	4.35	.75	337

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.02	1.21	1.23	2.17	4.44	2.50	1.25	0.07	0.20	0.23	0.01	0.08	13.41
1952	.43	1.90	1.76	1.34	1.27	3.46	2.16	.08	.26	.03	.003	.02	12.71
1953	.002	.02	.05	.21	.16	2.17	1.48	1.18	.04	.05	.0008	.0002	5.32
1954	.002	.0003	.0007	.01	.005	.03	.40	.08	.02	.07	.31	.93	
1955	.37	.01	.64	.34	.94	2.00	2.42	.54	.73	.39	.05	.003	8.43
1956	.002	.30	.01	.008	1.83	.40	.54	.42	.15	.34	.17	.16	4.33
1957	.001	.02	.80	.51	1.75	1.21	6.00	5.08	1.87	.91	.25	.10	18.50
1958	.03	1.52	5.47	1.79	.32	2.42	1.05	1.20	.50	2.04	.86	.15	17.35
1959	.05	.64	.53	1.98	2.41	1.39	.99	1.64	.04	.04	1.20	.12	11.03
1960	.06	.49	2.70	.94	1.07	2.08	.76	.57	.26	.92	.01	.002	9.86

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	809	23.68
1951	1205	8,250	Feb. 21, 1951	0.5	459	0.989	13.41	514	15.04
1952	1235	5,980	Mar. 12, 1952	.6	434	.935	12.71	297	8.70
1953	1275	3,910	Mar. 5, 1953	.1	182	.392	5.32	179	5.25
1954	1335	2,860	May 3, 1954	0	32.1	.069	.93	67.1	1.95
1955	1385	5,300	Apr. 24, 1955	0	289	.623	8.43	264	7.72
1956	1435	3,040	Feb. 26, 1956	.1	148	.319	4.33	165	4.84
1957	1505	16,500	May 23, 1957	.1	632	1.36	18.50	844	24.70
1958	1555	18,500	Dec. 20, 1957	.4	593	1.28	17.35	394	11.55
1959	1625	3,950	Jan. 23, 1959	1.0	377	.812	11.03	446	13.06
1960	1705	4,800	Dec. 19, 1959	.4	337	.726	9.86	-	-

3815. Little Wabash River at Carmi, Ill.

Location--Lat 38°03'40", long 88°09'35", near center of E $\frac{1}{2}$ sec.25, T.5 S., R.9 E., on right bank at upstream side of Possum Bridge, 2.3 miles south of Main Street Bridge in Carmi and $7\frac{1}{4}$ 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 1960.

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 ft higher. Oct. 1 to Nov. 9, 1939, wire-weight gage at present site and datum. Since Nov. 14, 1939, auxiliary water-stage recorder 3.1 miles upstream.

Average discharge--21 years (1939-60), 2,575 cfs.

Extremes--1939-60: Maximum discharge, 39,400 cfs Jan. 11, 1950 (gage height, 35.23 ft); no flow Sept. 15-17, 1952, result of temporary dam upstream; minimum unregulated discharge, 0.6 cfs Sept. 9, 1953, July 31, 1954.

Maximum stage known, 36.23 ft in January 1937.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	93.8	3,212	2,729	6,494	7,475	10,740	3,584	420	485	2,087	146	248	3,121
1952	750	4,117	5,164	4,697	4,699	9,735	7,721	360	1,174	362	37.0	61.5	3,147
1953	26.0	50.0	153	550	312	5,906	3,211	3,322	217	182	22.7	3.07	1,146
1954	6.75	8.23	16.4	39.9	67.9	25.3	176	547	120	58.2	246	500	151
1955	495	111	613	1,411	1,236	5,456	4,042	2,142	2,184	1,273	139	94.8	1,603
1956	547	1,641	197	81.1	4,810	4,080	1,475	1,706	947	705	545	232	1,399
1957	17.4	48.0	1,196	1,135	3,078	2,616	12,630	6,180	10,120	4,599	570	321	3,522
1958	236	3,781	7,959	9,423	2,103	4,617	3,147	3,808	1,169	5,472	4,861	423	3,953
1959	225	1,558	1,669	3,865	7,979	4,427	2,052	3,344	948	150	2,068	597	2,373
1960	467	1,000	5,117	3,299	3,693	2,975	4,220	1,853	2,042	3,041	250	37.8	2,331

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.03	1.15	1.01	2.41	2.50	3.98	1.29	0.16	0.17	0.77	0.05	0.09	13.61
1952	.28	1.48	1.91	1.74	1.63	3.24	2.77	.13	.42	.13	.01	.02	13.76
1953	.01	.02	.06	.20	.10	2.08	1.15	1.23	.08	.06	.008	.001	5.00
1954	.002	.003	.006	.01	.02	.009	.08	.20	.04	.02	.09	.18	.64
1955	.18	.04	.23	.52	.41	2.02	1.45	.79	.78	.48	.05	.03	6.98
1956	.20	.59	.07	.03	1.67	1.51	.53	.63	.34	.26	.20	.08	6.11
1957	.006	.02	.44	.42	1.03	.97	4.53	2.29	3.63	1.70	.21	.12	15.37
1958	.09	1.36	2.95	3.49	.70	1.71	1.13	1.41	.42	2.03	1.81	.15	17.25
1959	.08	.55	.62	1.44	2.67	1.64	.74	1.24	.34	.06	.77	.21	10.36
1960	.17	.36	1.90	1.22	1.28	1.10	1.51	.69	.73	1.13	.09	.01	10.19

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	5,722	24.97
1951	1205	15,400	Feb. 28, 1951	15	3,121	1.00	13.61	3,458	15.09
1952	1235	14,700	Mar. 22, 23, 1952	0	3,147	1.01	13.76	2,327	10.18
1953	1275	8,220	Mar. 10, 11, 1953	.6	1,146	.368	5.00	1,129	4.92
1954	1335	4,180	May 5, 1954	1.6	151	.049	.64	252	1.08
1955	1385	9,300	Apr. 30, 1955	13	1,603	.515	6.98	1,698	7.39
1956	1435	8,850	Mar. 1, 1956	35	1,399	.450	6.11	1,308	5.72
1957	1505	18,500	Apr. 12, 1957	8.6	3,522	1.13	15.37	4,422	19.30
1958	1555	23,700	Dec. 28, 1957	37	3,953	1.27	17.25	3,233	14.10
1959	1625	11,100	Feb. 21, 1959	38	2,373	.763	10.36	2,643	11.54
1960	1705	10,200	Dec. 23, 1959	24	2,331	.749	10.19	-	-

3825. Saline River near Junction, Ill.

Location.--Lat 37°41'52", long 88°16'00", in NE $\frac{1}{4}$ sec.36, T.9 S., R.8 E., on right bank at old Island Ripple Bridge site, 2 $\frac{1}{2}$ miles southwest of Junction, 4 miles downstream from North Fork, and 13 $\frac{1}{2}$ miles upstream from mouth.

Drainage area.--1,040 sq mi, approximately.

Records available.--October 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 320.40 ft above mean sea level, datum of 1929. Prior to Dec. 13, 1939, wire-weight gage at upstream side of Island Ripple Bridge at same datum. Since Dec. 27, 1939, auxiliary water-stage recorder 3 $\frac{1}{2}$ miles downstream at Eagle Ripple Ford.

Average discharge.--21 years (1939-60), 1,191 cfs (unadjusted).

Extremes.--1939-60: Maximum discharge, 37,400 cfs Mar. 19, 1945; maximum gage height, 44.03 ft Mar. 17, 1945 (backwater from Ohio River); maximum daily reverse flow, 6,260 cfs Apr. 21, 1948; minimum discharge during nonbackwater periods, 0.9 cfs Sept. 22, 23, 1944; minimum gage height, 1.01 ft Sept. 25-28, 1941.
Maximum stage known, about 55.8 ft in February 1937 (backwater from Ohio River).

Remarks.--Backwater from Ohio River frequently causes reversal of flow at station and occasionally, at extremely high stages, causes diversion from Wabash River to Saline River just above station. Monthly and yearly figures given herein have been adjusted for the occasional diversion from Wabash River.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	200	1,615	1,291	3,714	3,358	2,856	1,191	168	1,251	1,014	61.4	131	1,592
1952	43.9	1,681	3,413	2,194	3,463	4,988	2,321	474	294	59.7	47.8	30.1	1,579
1953	11.0	23.7	69.6	335	172	1,706	1,470	1,286	97.6	41.3	9.95	7.47	438
1954	5.10	6.33	11.4	208	221	13.2	528	404	99.9	25.0	148	158	151
1955	85.1	5.97	445	290	448	1,803	1,995	1,278	349	128	28.9	8.60	573
1956	136	93.4	25.7	68.0	2,158	2,081	1,026	136	77.9	146	59.5	22.7	496
1957	6.94	24.8	73.4	481	1,278	1,089	4,641	6,354	1,537	185	131	17.7	1,316
1958	35.9	2,378	3,730	2,210	544	3,027	2,244	2,192	635	2,522	592	57.5	1,694
1959	40.8	177	191	2,181	2,473	1,486	717	1,188	87.6	16.3	1,980	517	915
1960	600	234	1,561	1,311	1,002	1,951	912	883	318	625	85.4	15.8	795

Note.--Monthly figures of mean discharge in cubic feet per second for water year 1960 were omitted in error from WSP 1705; those figures are listed above.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.22	1.73	1.43	4.12	3.56	3.17	1.28	0.19	1.34	1.12	0.07	0.14	18.17
1952	.05	1.80	3.78	2.43	3.59	5.53	2.49	.53	.31	.07	.05	.03	20.66
1953	.01	.03	.08	.37	.17	1.89	1.58	1.43	.10	.05	.01	.008	5.73
1954	.006	.007	.01	.23	.22	.01	.58	.45	.11	.03	.16	.17	1.96
1955	.09	.006	.49	.32	.45	2.00	2.14	1.42	.37	.14	.03	.009	7.46
1956	.15	.10	.03	.07	2.25	2.31	1.10	.15	.08	.16	.07	.02	6.49
1957	.008	.03	.08	.53	1.28	1.21	4.98	7.04	1.85	.21	.15	.02	17.19
1958	.04	2.55	4.13	2.45	.54	3.36	2.41	2.43	.68	2.80	.66	.06	22.11
1959	.05	.19	.21	2.42	2.48	1.65	.77	1.32	.09	.02	2.20	.55	11.95
1960	.66	.25	1.73	1.45	1.04	2.16	.98	.98	.34	.69	.09	.02	10.39

Note.--Monthly figures of runoff in inches for water year 1960 were omitted in error from WSP 1705; those figures are listed above.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	4,290	-
1951	1205	-	Feb. 22, 1951	-1,170	1,592	1.34	18.17	1,564	20.42
1952	1235	13,200	Mar. 13, 14, 1952	-1,470	1,579	1.52	20.66	1,157	15.15
1953	1275	6,700	Mar. 5, 1953	-151	438	.421	5.73	431	5.63
1954	1335	3,060	Jan. 21, 1954	-685	151	.145	1.95	195	2.53
1955	1385	10,100	Mar. 23, 1955	-2,760	573	.551	7.46	549	7.16
1956	1435	6,450	Feb. 19, 1956	-805	496	.477	6.49	483	6.33
1957	1505	21,900	May 26, 1957	-1,800	1,316	1.27	17.19	1,826	23.79
1958	1555	11,300	Dec. 22, 1957	-1,810	1,694	1.63	22.11	1,213	15.84
1959	1625	10,900	Jan. 22, 1958	-266	915	.880	11.95	1,083	14.14
1960	1705	6,030	Jan. 17, 1960	-423	795	.764	10.39	-	-

a About.

Note.--Negative figures indicate reverse flow.

3830. Tradewater River at Olney, Ky.

Location.--Lat 37°13'26", long 87°46'53", on downstream side of left abutment of highway bridge at Olney, Hopkins County, 1.1 miles upstream from Cave Creek, 5.1 miles downstream from Flynn Creek, and 9½ miles northeast of Princeton.

Drainage area.--255 sq mi, of which about 9 sq mi does not contribute directly to surface runoff.

Records available.--August 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 362.80 ft above mean sea level, adjustment of 1907. Prior to July 31, 1942, wire-weight gage at same site and datum.

Average discharge.--20 years (1940-60), 322 cfs.

Extremes.--1940-60: Maximum discharge, 7,960 cfs Nov. 19, 1957 (gage height, 17.53 ft); no flow at times.

Maximum stage known, 19.27 ft in January 1937, from floodmarks (discharge, 17,000 cfs, by slope-area measurement).

Remarks.--Records of chemical analyses and water temperatures for the period October 1951 to September 1960 and suspended sediment loads for the period October 1952 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	20.3	467	497	1,710	1,108	803	590	46.2	27.3	36.8	5.23	34.5	442
1952	12.4	646	1,466	1,045	422	1,652	281	52.4	4.03	.003	0	.19	468
1953	0	1.71	85.5	405	259	1,191	445	1,104	15.5	9.67	.20	0	295
1954	0	0	4.30	323	216	220	359	392	75.2	17.1	8.73	17.8	136
1955	11.1	1.10	191	115	861	1,141	727	272	110	8.58	19.1	.05	284
1956	3.69	2.05	7.35	85.6	1,644	558	579	291	11.9	15.6	22.1	3.14	262
1957	0	12	30.8	427	845	455	855	1,207	125	37.6	10.1	.46	328
1958	56	2,178	1,354	397	335	705	448	525	23.6	287	31.0	17.3	523
1959	5.31	32.5	46.2	681	456	248	135	134	121	27.1	270	36.0	182
1960	52.9	159	613	452	425	524	342	94.5	109	533	6.12	.47	277

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.09	2.04	2.25	7.73	4.53	3.63	2.58	0.21	0.12	0.17	0.02	0.15	23.52
1952	.06	2.83	6.63	4.72	1.79	7.47	1.23	.24	.02	.0000	0	.0008	24.99
1953	0	.007	.39	1.83	1.06	5.38	1.95	4.99	.07	.04	.0009	0	15.72
1954	0	0	.02	1.46	.88	.99	1.57	1.77	.33	.08	.04	.08	7.22
1955	.05	.005	.86	.52	3.52	5.16	3.18	1.23	.48	.04	.09	.0002	15.14
1956	.02	.009	.03	.39	6.95	2.52	2.53	1.32	.05	.07	.10	.01	14.00
1957	0	.0005	.14	1.93	3.45	2.06	3.65	5.46	.55	.17	.05	.002	17.46
1958	.003	9.53	6.12	1.79	1.37	3.19	1.96	2.37	.10	1.21	.14	.08	27.86
1959	.02	.14	.21	3.08	1.86	1.12	.59	.61	.53	.12	1.22	.16	9.66
1960	.24	.70	2.77	2.04	1.80	2.37	1.50	.43	.48	2.41	.03	.002	14.77

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Runoff in inches
		Discharge	Date					
1950	-	-	-	-	-	-	-	35.80
1951	1205	6,260	Jan. 16, 1951	1.4	442	1.73	23.52	28.66
1952	1235	5,520	Mar. 24, 1952	0	468	1.84	24.99	15.87
1953	1275	4,020	May 20, 1953	0	295	1.16	15.72	15.34
1954	1335	1,670	May 10-11, 1954	0	136	.553	7.22	8.12
1955	1385	3,510	Mar. 23, 1955	0	284	1.11	15.14	14.28
1956	1435	4,060	Feb. 3, 1956	0	262	1.03	14.00	14.08
1957	1505	6,020	May 24-25, 1957	0	328	1.29	17.46	32.98
1958	1555	7,960	Nov. 19, 1957	0	523	2.05	27.86	12.58
1959	1625	3,200	Jan. 22, 1959	1.4	182	.714	9.66	13.00
1960	1705	4,400	July 1, 1960	.1	277	1.09	14.77	-

3840. Rose Creek at Nebo, Ky.

Location--Lat 37°22'58", long 87°37'59", on right bank at downstream side of bridge on U.S. Highway 41A, 0.5 mile east of Nebo, Hopkins County, 4 miles upstream from mouth, and 8 miles northwest of Madisonville.

Drainage area--2.10 sq mi.

Records available--November 1951 to September 1960.

Gage--Water-stage recorder and concrete control. Datum of gage is 382.08 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944.

Average discharge--8 years (1952-60), 1.74 cfs.

Extremes--1951-60: Maximum discharge, 1,230 cfs Nov. 18, 1957 (gage height, 7.46 ft), from rating curve extended above 600 cfs; no flow for many days each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	12.6	10.6	4.33	9.52	5.55	0.387	0.02	0.08	0	0.08	-
1953	0	0.14	.83	2.39	.85	7.70	1.35	5.80	.41	.13	0	0	1.65
1954	0	0	.03	.15	.90	.19	1.63	.56	.08	.08	.06	.38	.33
1955	.01	0	.33	.01	3.25	3.57	4.17	.07	.09	0	0	0	.94
1956	0	.25	.003	.55	9.75	2.96	3.99	.75	.003	1.34	.07	0	1.60
1957	0	.02	.12	2.23	4.61	1.70	6.81	3.98	2.72	2.02	0	0	2.00
1958	0	13.2	7.46	3.73	1.48	4.55	1.69	1.28	.41	2.59	.016	.11	3.05
1959	.03	.05	0	7.59	2.69	1.09	.13	.73	.09	.06	12.1	.12	2.07
1960	2.84	.73	4.08	3.79	2.93	3.92	1.92	2.96	.67	3.32	.18	0	2.29

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	6.90	5.84	2.22	5.23	2.95	0.21	0.01	0.05	0	0.04	-
1953	0	0.07	.46	1.31	.42	4.23	.72	3.18	.22	.07	0	0	10.68
1954	0	0	.02	.08	.45	.10	.87	.31	.04	.04	.04	.20	2.15
1955	.005	0	.18	.005	1.61	1.96	2.21	.04	.05	0	0	0	6.06
1956	0	.13	.002	.30	5.01	1.63	2.12	.41	.002	.73	.04	0	10.37
1957	0	.01	.07	1.23	2.29	.94	3.67	2.18	1.45	1.11	0	0	12.95
1958	0	7.03	4.10	2.05	.73	2.50	.90	.70	.22	1.42	.009	.06	19.72
1959	.02	.02	0	4.17	1.33	.60	.07	.40	.05	.03	6.65	.06	13.40
1960	1.56	.39	2.24	2.08	1.51	2.15	1.02	1.63	.36	1.82	.10	0	14.86

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	1225, 1505	624	Mar. 21, 1952	-	-	-	-	2.63	17.08
1953	1275, 1505	722	Mar. 3, 1953	0	1.65	0.786	10.68	1.57	10.17
1954	1335, 1505	358	Apr. 6, 1954	0	.33	.157	2.15	.36	2.32
1955	1385, 1505	500	Apr. 23, 1955	0	.94	.448	6.06	.93	6.01
1956	1435	884	Feb. 15, 1956	0	1.60	.762	10.37	1.59	10.32
1957	1505	689	June 1, 1957	0	2.00	.952	12.95	3.71	24.00
1958	1555	1,230	Nov. 18, 1957	0	3.05	1.45	19.72	1.33	8.63
1959	1625	a1,000	Aug. 6, 1959	0	2.07	.986	13.40	2.72	17.55
1960	1705	a900	July 1, 1960	0	2.29	1.09	14.86	-	-

a About.

3845. Ohio River at Golconda, Ill.

Location (revised).--Lat 37°21'28", long 88°28'57", on right bank at lock and dam 51, at Golconda, Pope County, 0.5 mile upstream from McGilligan Creek, 0.7 mile downstream from Lusk Creek, and at mile 903.1.

Drainage area.--143,900 sq mi, approximately.

Records available.--October 1937 to September 1960 (no low-flow records prior to October 1940 and after September 1952). Gage-height records collected at same site since 1924 are contained in reports of U.S. Weather Bureau.

Gage.--Staff gage. Datum of gage is 294.6 ft above mean sea level, Ohio River datum. Auxiliary staff gage at lock and dam 50, 26.3 miles upstream.

Average discharge.--12 years (1940-52), 180,940 cfs.

Extremes.--1937-60: Maximum discharge, 1,010,000 cfs Mar. 14-16, 1945; maximum gage height, 53.2 ft Mar. 14, 15, 1945.

Maximum stage known, 62.6 ft Feb. 1-3, 1937; maximum discharge, 1,470,000 cfs Feb. 2, 3, 1937.

Correction.--In WSP 1305, the momentary maximum discharge for water year 1943 is listed in error; it should be 802,000 cfs.

Remarks.--Records of chemical analyses and water temperatures for the period October 1954 to September 1960 are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	66,450	186,100	384,500	433,400	480,600	506,800	374,000	178,400	121,800	94,960	33,710	33,670	240,100
1952	20,390	106,600	340,700	431,100	497,500	576,800	556,500	197,500	121,200	45,520	28,520	21,000	211,000
1953	-	-	-	171,600	181,400	506,600	240,500	247,500	-	-	-	-	-
1954	-	-	-	-	73,260	146,300	175,800	124,200	-	-	-	-	-
1955	-	-	-	204,400	256,700	642,300	260,800	137,000	-	-	-	-	-
1956	-	-	-	-	483,800	545,600	566,800	201,700	184,900	112,800	112,500	-	-
1957	-	-	155,700	178,400	432,800	190,800	460,400	223,900	158,800	138,900	-	-	-
1958	-	-	314,700	264,100	201,100	199,000	288,000	433,000	163,600	258,400	262,700	-	-
1959	-	-	-	242,700	476,000	263,300	232,600	181,900	-	-	-	-	-
1960	-	-	219,500	251,700	278,800	199,400	291,900	124,500	137,000	-	-	-	-

Note.--Figures for January 1953, February and May 1954, January, February, and May, 1955, and June, July, and August, 1956 not previously published; partly estimated on basis of records for other mainstem stations and tributary inflow.

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.53	1.44	3.08	3.47	3.48	4.08	2.90	1.43	0.94	0.76	0.27	0.26	22.64
1952	.16	.83	2.73	3.45	3.73	3.02	2.76	1.58	.94	.36	.23	.16	19.95
1953	-	-	-	*1.37	1.31	2.46	1.86	1.98	-	-	-	-	-
1954	-	-	-	-	*.53	1.17	1.35	*1.00	-	-	-	-	-
1955	-	-	-	*1.64	*1.87	5.15	2.02	*1.10	-	-	-	-	-
1956	-	-	-	-	3.63	4.37	2.84	1.62	*1.43	*.90	*.90	-	-
1957	-	-	1.25	1.43	3.13	1.53	3.57	1.79	1.23	1.11	-	-	-
1958	-	-	2.52	2.12	1.46	1.59	2.23	3.47	1.27	2.07	2.10	-	-
1959	-	-	-	1.94	3.44	2.11	1.80	1.46	-	-	-	-	-
1960	-	-	1.76	2.02	2.09	1.60	2.26	1.00	1.06	-	-	-	-

* Not previously published; partly estimated on basis of records for other mainstem stations and tributary inflow.

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	302,400	28.51
1951	1205	647,000	Mar. 1, 1951	-	240,100	1.67	22.64	225,900	21.31
1952	1235	726,000	Feb. 10, 1952	-	211,000	1.47	19.95	-	-
1953	1275	422,000	Mar. 11, 1953	-	-	-	-	-	-
1954	1335	269,000	Apr. 25, 1954	-	-	-	-	-	-
1955	1385	737,000	Mar. 14, 1955	-	-	-	-	-	-
1956	1435	668,000	Feb. 28, 1956	-	-	-	-	-	-
1957	1505	694,000	Apr. 18, 1957	-	-	-	-	-	-
1958	1555	660,000	May 16, 17, 1958	-	-	-	-	-	-
1959	1625	690,000	Feb. 1, 1959	-	-	-	-	-	-
1960	1705	459,000	Apr. 11, 1960	-	-	-	-	-	-

3850. Hayes Creek at Glendale, Ill.

Location.--Lat 37°27'25", long 88°40'05", in SW¹/₄SW¹/₄ sec.21, T.12 S., R.5 E., on left bank at downstream side of bridge on State Highway 145 at Glendale, 3 miles upstream from mouth.

Drainage area.--18.9 sq mi.

Records available.--May 1949 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 375.14 ft (corrected) above mean sea level, datum of 1929.

Average discharge.--11 years (1949-60), 27.4 cfs.

Extremes.--1949-60: Maximum discharge, 4,390 cfs July 22, 1958 (gage height, 17.01 ft), from rating curve extended above 1,600 cfs; no flow for many days in 1952-60.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	5.65	55.6	31.2	86.6	78.5	58.0	39.8	3.84	59.9	11.0	1.54	3.89	35.9
1952	.21	87.5	113	51.0	72.9	110	27.2	14.7	3.56	.02	0	.52	40.0
1953	.006	.03	2.09	17.8	8.12	68.0	32.9	32.9	1.69	.11	.003	0	13.7
1954	.01	.02	.41	29.0	18.9	7.93	29.8	29.9	3.23	0	1.39	.28	10.0
1955	.21	.13	8.13	2.04	14.8	55.5	34.4	5.04	2.96	6.60	.14	0	10.8
1956	3.25	5.81	1.24	15.3	102	35.2	43.9	5.22	.10	1.60	.03	.03	17.4
1957	.01	.67	1.15	26.6	31.1	24.6	98.4	148	17.4	3.13	1.05	0	29.3
1958	.15	84.3	115	37.9	16.1	61.1	23.8	32.6	3.82	112	6.27	.15	41.4
1959	.13	7.52	7.34	94.6	33.0	14.7	8.80	33.6	2.45	.08	40.5	18.8	21.8
1960	18.8	13.2	44.9	30.4	16.7	37.5	22.6	16.3	2.58	1.31	.45	2.74	17.4

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.34	3.28	1.91	5.28	4.33	3.54	2.35	0.23	3.54	0.67	0.09	0.23	25.79
1952	.01	5.16	6.88	3.11	4.16	6.72	1.61	.90	.21	.001	0	.03	28.79
1953	.0004	.002	.13	1.06	.45	4.15	1.94	2.01	.10	.007	.0002	0	9.87
1954	.0004	.001	.02	1.77	1.04	4.48	1.76	1.82	.19	0	.09	.02	7.19
1955	.01	.007	.50	.12	.82	3.39	2.03	.31	.17	.40	.008	0	7.76
1956	.20	.34	.08	.93	5.84	2.15	2.59	.32	.006	.10	.002	.002	12.56
1957	.0006	.04	.07	1.62	1.71	1.50	5.81	9.03	1.03	.19	.06	0	21.07
1958	.009	4.98	7.00	2.31	.89	3.73	1.40	1.99	.23	6.84	.38	.009	29.77
1959	.008	.44	7.45	5.77	1.82	.90	.52	2.05	.14	.005	2.47	1.11	15.66
1960	1.15	.78	2.74	1.85	.95	2.29	1.33	.99	.15	.08	.03	.16	12.50

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	64.2	46.09
1951	1205	2,320	Mar. 18, 1951	0.1	35.9	1.90	25.79	45.0	32.31
1952	1235	2,530	Mar. 10, 1952	0	40.0	2.12	28.79	23.4	16.87
1953	1275	1,750	Mar. 2, 1953	0	13.7	.725	9.87	13.6	9.76
1954	1335	1,110	Apr. 6, 1954	0	10.0	.529	7.19	10.7	7.69
1955	1385	2,400	Mar. 20, 1955	0	10.8	.571	7.76	11.0	7.87
1956	1435	1,980	Feb. 2, 1956	0	17.4	.921	12.56	16.7	12.05
1957	1505	3,830	May 22, 1957	0	29.3	1.55	21.07	45.9	32.94
1958	1555	4,390	July 22, 1958	0	41.4	2.19	29.77	26.0	18.68
1959	1625	4,120	Jan. 21, 1959	0	21.8	1.15	15.68	27.1	19.46
1960	1705	815	Jan. 14, 1960	0	17.4	.921	12.50	-	-

3855. Lake Glendale Inlet near Dixon Springs, Ill.

Location--Lat 37°24'55", long 88°39'00", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.3, T.13 S., R.5 E., 0.9 mile upstream from Lake Glendale dam and 2.5 miles north of Dixon Springs.

Drainage area--1.04 sq mi. --

Records available--August 1954 to September 1960.

Gage--Water-stage recorder and concrete control. Datum of gage is 418.39 ft above mean sea level, datum of 1929.

Average discharge--6 years (1954-60), 1.34 cfs.

Extremes--1954-60: Maximum discharge, 1,500 cfs July 22, 1958 (gage height, 4.95 ft), from rating curve extended above 55 cfs on basis of flood-routing study; no flow for many days each year.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	0	0	0.329	0.033	0.845	3.49	1.52	0.123	0.115	1.01	0.0006	0	0.622
1956	.114	.101	.025	.741	4.76	1.96	2.65	.283	.006	.045	0	0	.870
1957	0	0	.030	1.87	2.17	1.29	5.66	6.16	.344	.008	.140	0	1.69
1958	.005	5.00	6.52	2.54	.830	4.50	1.51	1.78	.203	9.64	.343	.002	2.75
1959	0	.300	.189	6.93	1.67	.726	1.407	1.60	.092	0	1.15	1.03	1.19
1960	.765	.619	2.51	1.21	.799	2.61	1.06	1.23	.085	.106	.0006	.06	.927

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	0	0	0.37	0.04	0.85	3.86	1.63	0.14	0.12	1.12	0.0007	0	6.13
1956	.13	.11	.03	.82	4.94	2.18	2.84	.29	.006	.05	0	0	11.40
1957	0	0	.03	2.07	2.17	1.43	6.07	9.05	1.01	.009	.16	0	22.00
1958	.006	5.37	7.23	2.82	.63	4.99	1.62	1.97	.22	10.69	.38	.002	35.93
1959	0	.32	.21	7.68	1.87	.80	.44	1.77	.10	0	1.28	1.11	15.58
1960	.85	.68	2.79	1.34	.83	2.90	1.13	1.36	.09	.12	.0007	.06	12.13

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30						Calendar year	
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-
1955	1435	680	July 20, 1955	0	0.622	0.598	8.13	0.614	8.03
1956	1435	320	Feb. 15, 1956	0	.870	.837	11.40	.853	11.16
1957	1505	860	May 22, 1957	0	1.69	1.62	22.00	2.65	34.58
1958	1555	1,500	July 22, 1958	0	2.75	2.64	35.93	1.83	23.65
1959	1625	840	Jan. 21, 1959	0	1.19	1.14	15.58	1.48	19.35
1960	1705	196	Mar. 29, 1960	0	.927	.891	12.13	-	-

3860. Lake Glendale Outlet near Dixon Springs, Ill.

Location.--Lat 37°24'50", long 88°39'50", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.4, T.13 S., R.5 E., 100 ft upstream from Lake Glendale Dam, 0.3 mile upstream from mouth, and 2.2 miles north of Dixon Springs.

Drainage area.--2.11 sq mi.

Records available.--October 1954 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 415.40 ft above mean sea level, datum of 1929.

Average discharge.--6 years (1954-60), 2.33 cfs.

Extremes.--1954-60: Maximum discharge, 725 cfs July 22, 1958 (gage height, 5.76 ft), from rating curve extended above 150 cfs on basis of weir formula; no flow for many days each year.

Remarks.--Flow regulated by Lake Glendale (capacity, 39,200,000 cu ft).

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	-	-	-	-	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-	-	-	-	-
1955	0	0	0	0	1.18	6.63	4.02	0.29	0.22	2.15	0	0	1.21
1956	0	0	0	.65	9.24	3.63	5.87	.39	0	0	0	0	1.61
1957	0	0	0	2.14	3.80	2.21	10.3	11.9	1.52	0.06	0	.14	2.66
1958	11.5	4.16	6.20	4.27	1.28	6.87	2.32	2.61	.17	15.4	.50	0	4.69
1959	0	.17	.59	11.1	4.24	1.78	.74	2.63	.01	0	1.75	2.94	2.16
1960	7.51	.02	5.15	1.11	0	0	2.23	2.79	.15	.32	0	0	1.63

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30				Calendar year			
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	-	-	-	-	-	-	-	-	-
1952	-	-	-	-	-	-	-	-	-
1953	-	-	-	-	-	-	-	-	-
1954	-	-	-	-	-	-	-	-	-
1955	1385	252	Mar. 20, 1955	0	1.21	-	-	1.21	-
1956	1435	123	Feb. 2, 1956	0	1.61	-	-	1.61	-
1957	1508	314	May 22, 1957	0	2.66	-	-	4.51	-
1958	1555	725	July 22, 1958	0	4.69	-	-	2.90	-
1959	1625	502	Jan. 21, 1959	0	2.16	-	-	3.17	-
1960	1705	72	May 20, 1960	0	1.63	-	-	-	-

3865. Sugar Creek near Dixon Springs, Ill.

Location.--Lat 37°24'56", long 88°40'25", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.5, T.13 S., R.5 E., on left bank at downstream side of abandoned highway bridge, 0.6 mile downstream from outlet of Lake Glendale, 2 miles north of Dixon Springs, and 6 $\frac{1}{2}$ miles upstream from mouth.

Drainage area.--9.70 sq mi.

Records available.--April 1950 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 375.85 ft above mean sea level, datum of 1929.

Average discharge.--10 years (1950-60), 11.3 cfs.

Extremes.--1950-60: Maximum discharge, 1,870 cfs July 22, 1958 (gage height, 9.10 ft); no flow for many days each year.

Remarks.--Occasional regulation by Lake Glendale.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	1.80	20.7	18.9	45.1	42.8	28.8	18.5	1.31	39.3	9.73	1.82	6.86	19.4
1952	3.01	45.5	59.4	28.8	34.6	47.7	11.8	2.86	1.78	.05	0	0	19.6
1953	.03	1.64	2.60	6.49	3.50	31.5	14.0	9.74	.22	0	0	0	5.65
1954	.17	0	.07	12.2	10.0	3.49	12.9	14.7	1.76	0	.17	.04	2.60
1955	.006	0	1.73	.28	7.29	26.2	14.9	1.45	.89	8.02	.05	0	5.06
1956	2.08	1.46	.40	5.21	48.7	16.5	23.1	2.35	.05	.68	0	0	8.19
1957	0	.02	.11	12.6	15.7	10.4	46.0	54.7	5.14	.19	1.29	.11	12.1
1958	9.89	41.3	55.2	20.1	5.76	31.6	12.2	13.3	1.40	54.3	2.84	.07	20.9
1959	0	1.62	1.85	41.7	14.3	6.61	2.94	12.1	1.16	.02	12.3	17.4	9.33
1960	14.0	4.13	23.6	11.4	5.58	17.0	8.29	10.1	.81	1.35	.33	.75	8.18

BAY CREEK BASIN

Monthly and yearly runoff, in inches, of Sugar Creek near Dixon Springs, Ill.

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.21	2.58	2.25	5.36	4.59	3.42	2.12	0.16	4.52	1.16	0.22	0.79	27.18
1952	.36	5.23	7.06	3.43	3.85	5.87	1.36	.34	.20	.006	0	0	27.51
1953	.003	.19	.31	.77	.38	3.74	1.61	1.16	.03	0	0	0	8.19
1954	.02	0	.008	1.45	1.08	.41	1.49	1.75	.20	0	.02	.004	6.43
1955	.0008	0	.21	.03	.78	3.11	1.71	.17	1.10	.95	.006	0	7.07
1956	.25	.17	.05	.62	5.42	1.97	2.66	.28	.006	.08	0	0	11.51
1957	0	.003	.01	1.49	1.69	1.24	5.29	6.50	.59	.02	.15	.01	16.99
1958	1.18	4.75	6.56	2.39	3.62	3.75	1.40	1.58	.16	6.46	.34	.008	29.20
1959	0	.19	.22	4.96	1.54	.79	.34	1.43	.13	.003	1.46	2.00	13.06
1960	1.66	.47	2.81	1.35	.62	2.03	.95	1.20	.09	.16	.04	.09	11.47

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	1,440	Mar. 17, 1951	0	19.4	2.00	27.18	25.0	34.99
1952	1235	1,440	Dec. 6, 1951	0	19.6	2.02	27.51	10.9	15.36
1953	1275	1,050	Mar. 3, 1953	0	5.85	.603	8.19	5.51	7.72
1954	1354	1,354	Apr. 6, 1954	0	4.00	.474	6.43	4.73	6.61
1955	1385	1,420	July 20, 1955	0	5.06	.522	7.07	5.24	7.33
1956	1435	1,180	Feb. 2, 15, 1956	0	8.19	.844	11.51	7.87	11.05
1957	1505	1,600	May 22, 1957	0	12.1	1.25	16.99	21.1	29.47
1958	1555	1,870	July 22, 1958	0	20.9	2.15	29.20	12.2	17.12
1959	1625	1,720	Jan. 21, 1959	0	9.33	.962	13.06	12.6	17.59
1960	1705	1,010	Jan. 14, 1960	0	8.18	.843	11.47	-	-

OHIO RIVER MAIN STEM

6115. Ohio River at Metropolis, Ill.

Location.--Lat 37°08'51", long 88°44'27", near center of span on downstream side of pier of Paducah & Illinois Railroad bridge at Metropolis, Massac County, $\frac{3}{2}$ miles downstream from Tennessee River and 37 miles upstream from mouth.

Drainage area.--203,000 sq mi, approximately.

Records available.--January 1928 to September 1960. Prior to January 1934 monthly discharge only, published in WSP 1305. Gage-height records collected 9.6 miles upstream at Paducah since 1890 are contained in reports of U.S. Weather Bureau. Occasional discharge measurements 1881 to 1924 in reports of Mississippi River Commission.

Gage.--Water-stage recorder. Datum of gage is 276.27 ft above mean sea level, datum of 1929. Prior to Dec. 22, 1936, water-stage recorders (temporary installations) at Paducah, Ky., Metropolis and Joppa, Ill., and dam 52. Auxiliary water-stage recorder near Grand Chain, 0.5 mile upstream from dam 53 and 18 miles downstream from base gage. Prior to May 29, 1936, auxiliary staff gages at dam 53.

Average discharge.--32 years (1928-60), 258,100 cfs.

Extremes.--1934-60: Maximum discharge, 1,780,000 cfs Feb. 1, 1937 (total discharge including overflow through Bay Creek and Cache River Valleys, 1,850,000 cfs); maximum gage height, 66.60 ft Feb. 2, 1937; minimum daily discharge, 20,600 cfs Oct. 8, 1941.

Remarks.--Flow partly regulated by many dams and reservoirs. Records of chemical analyses for the period October 1952 to September 1953 and water temperatures for the period March 1954 to September 1960 at the base gage at Metropolis and records of chemical analyses and water temperatures for the period October 1954 to September 1960 at the auxiliary gage near Grand Chain are published in reports of the Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	120,800	266,600	495,700	580,200	726,200	665,500	572,400	252,000	177,800	165,100	80,830	78,200	346,000
1952	81,630	197,400	806,500	639,900	680,000	586,000	451,100	257,300	182,700	84,780	63,990	53,150	321,200
1953	50,730	54,240	123,900	276,000	364,800	467,000	325,400	385,300	181,300	97,920	70,110	45,220	202,700
1954	37,330	42,140	71,140	251,200	181,500	242,200	259,400	208,800	116,400	83,110	84,970	65,480	136,800
1955	125,000	88,040	154,400	302,100	398,600	821,200	461,000	227,200	159,500	113,100	88,080	55,070	248,900
1956	93,880	150,300	126,900	81,530	754,200	697,800	499,600	280,700	234,000	166,200	163,600	101,200	277,000
1957	72,710	85,560	254,800	307,500	795,300	534,400	566,300	400,000	248,000	120,200	79,570	78,770	338,000
1958	92,080	877,700	536,700	400,000	328,400	305,700	400,500	604,100	226,300	309,600	33,100	127,800	279,000
1959	102,700	111,900	145,400	323,100	574,800	350,700	323,300	248,900	148,100	99,040	102,600	73,650	214,600
1960	110,200	144,300	387,900	596,200	410,100	365,900	378,200	186,500	190,500	193,400	103,100	104,100	247,100

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	-	-
1951	1205	820,000	Feb. 26, 1951	56,800	346,000	1.70	23.14	443,500	29.66
1952	1235	895,000	Feb. 8, 1952	39,900	321,200	1.58	21.54	344,700	23.05
1953	1275	621,000	Mar. 9, 1953	35,100	202,700	.999	13.56	267,700	17.95
1954	1355	548,000	Jan. 27, 1954	24,900	136,800	.674	9.15	155,100	10.37
1955	1385	1,030,000	Mar. 28-30, 1955	37,400	248,900	1.23	16.64	249,000	16.65
1956	1435	891,000	Feb. 26, 1956	53,600	277,000	1.36	18.57	280,700	18.82
1957	1505	968,000	Feb. 10, 1957	45,200	273,600	1.35	18.29	322,900	21.60
1958	1555	788,000	May 18, 1958	77,700	338,000	1.67	22.60	284,000	18.99
1959	1625	708,000	Feb. 2, 1959	43,400	214,600	1.06	14.35	238,600	15.95
1960	1705	588,000	Dec. 22, 1959	79,800	247,100	1.22	16.57	-	-

6120. Cache River at Forman, Ill.

Location.--Lat 37°20'11", long 88°55'26", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.6, T.14 S., R.3 E., at upstream side of highway bridge $1\frac{1}{4}$ miles southwest of Forman.

Drainage area.--243 sq mi. At site used prior to October 1958, 242 sq mi.

Records available.--October 1922 to July 1924, September 1924 to September 1960.

Gage.--Wire-weight gage read once daily. Datum of gage is 318.47 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1932, chain gage and July 25, 1939, to Sept. 30, 1958, water-stage recorder at site 2.6 miles upstream at datum 333.77 ft above mean sea level, datum of 1929. Oct. 1, 1932, to July 24, 1939, chain or wire-weight gage at site 2.6 miles upstream at datum 332.77 ft above mean sea level, datum of 1929.

Average discharge.--36 years (1924-60), 303 cfs.

Extremes.--1922-60: Maximum discharge, 9,630 cfs Mar. 12, 1935 (gage height, 17.99 ft, site and datum then in use, from graph based on gage readings); no flow at times.

Correction.--In WSP 1305, the maximum gage height for the period of record on Mar. 12, 1935, is in error; the correct figure is shown above.

Remarks.--Flow of lower part of Cache River basin was diverted from Ohio River to Mississippi River beginning Oct. 31, 1950, through diversion channel of Mounds-Mound City flood-protection project. Flow of upper part of Cache River basin, including flow past this station, continues to discharge to Ohio River, passing through Post Creek cutoff directly to Ohio River instead of through the original channel of Cache River.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	54.8	446	381	994	1,050	553	309	51.6	37.5	126	27.2	62.3	337
1952	41.3	569	931	546	786	1,375	388	81.2	25.6	5.25	4.94	18.2	397
1953	.62	10.9	29.5	98.8	55.6	451	309	260	34.3	26.1	2.75	.43	107
1954	.16	.66	9.89	97.0	132	31.4	219	115	21.1	2.18	30.7	36.2	73.0
1955	26.9	1.87	158	120	140	711	505	443	152	80.5	1.83	.46	196
1956	34.9	28.4	3.98	27.7	652	355	468	97.8	44.2	71.6	7.32	19.0	164
1957	4.96	51.0	44.2	344	430	346	1,424	1,600	197	70.5	39.6	1.70	379
1958	46.4	1,097	1,172	533	226	921	492	584	188	1,257	196	39.6	567
1959	18.5	126	53.7	789	516	360	212	59.6	28.3	3.94	25.2	65.8	206
1960	81.7	60.4	460	360	285	580	236	278	20.5	12.1	25.0	1.18	184

Monthly and yearly runoff, in inches

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.26	2.06	1.81	4.73	4.52	2.63	1.43	0.25	0.17	0.60	0.13	0.29	18.88
1952	.20	2.63	4.43	2.60	3.50	6.55	1.79	.39	.12	.03	.02	.08	22.34
1953	.003	.05	.14	.47	.24	2.15	1.42	1.24	.16	.12	.01	.002	6.00
1954	.0008	.003	.05	.46	.57	.15	1.01	.55	.97	.01	.15	.18	4.10
1955	.14	.009	.75	.57	.60	3.39	2.33	2.11	.70	.38	.009	.002	10.99
1956	.17	.13	.02	.13	3.80	1.69	2.16	.47	.20	.34	.03	.09	9.23
1957	.02	.24	.21	1.64	1.65	1.65	6.57	7.62	.91	.34	.19	.008	21.25
1958	.22	5.06	5.59	2.54	.97	4.39	2.27	2.78	.87	5.99	.94	.18	31.80
1959	.09	.58	.25	3.75	2.21	1.71	.97	.28	.13	.02	1.19	.30	11.48
1960	.39	.28	2.18	1.71	1.27	1.80	1.08	1.32	.09	.06	.12	.005	10.30

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30					Calendar year		
		Momentary maximum		Minimum day	Mean	Per square mile	Runoff in inches	Mean	Runoff in inches
		Discharge	Date						
1950	-	-	-	-	-	-	-	759	42.58
1951	1205	4,040	Jan. 16, 1951	0.9	337	1.39	18.88	392	22.01
1952	1235	5,110	Mar. 12, 1952	.3	397	1.64	22.34	272	15.27
1953	1275	1,480	Mar. 3, 1953	0	107	.442	6.00	105	5.87
1954	1335	1,500	Apr. 7, 1954	0	73.0	.302	4.10	86.2	4.95
1955	1385	3,260	Mar. 23, 1955	.2	196	.610	10.99	166	10.41
1956	1435	1,900	Feb. 19, 1956	.3	164	.678	9.23	167	9.38
1957	1505	8,250	May 24, 1957	.2	379	1.57	21.25	564	31.65
1958	1555	5,110	July 20, 1958	4	567	2.34	31.80	390	21.85
1959	1625	4,100	Jan. 22, 1959	.6	206	.648	11.48	240	13.41
1960	1705	1,770	Dec. 18, 1959	.4	184	.757	10.30	-	-

Published herewith are revisions and corrections to records published in WSP 1305 for stations discontinued prior to September 30, 1950.

475. Kiskiminetas River at Avonmore, Pa.

Correction.--In WSP 1305, the water year 1910 mean discharge, unadjusted and adjusted, and the discharge per square mile are listed in error; they should be 2,595 cfs, 2,596 cfs, and 1.51 cfs, respectively.

The average discharge for the period of record should be 30 years (1907-37), 3,017 cfs (adjusted for storage).

565. Tygart River at Fetterman, W. Va.

Correction.--In compiling WSP 303 and 1305, the total cfs-days for August 1911 was listed in error. The corrected figure and revised figures resulting therefrom are given herewith:

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in inches
August 1911.....	20,624	11,200	50	665	0.510	0.59
Water year 1910-11.....	869,736	35,000	50	2,383	1.83	24.83
Calendar year 1911.....	1,140,056	35,000	50	3,123	2.39	32.53

1450. South Fork Licking River near Hebron, Ohio

Revisions.--The momentary maximum discharges for the water years 1940, 1943, and 1945 have been revised as follows:

Momentary maximum	
Discharge	Date
4,820	Apr. 20, 1940
3,520	Mar. 20, 1943
5,200	Mar. 6, 1945

Flood of Jan. 21, 1959, reached a stage of 12.4 ft (discharge, 5,880 cfs, on basis of slope-area measurement of peak flow).

1770. Rich Creek near Peterstown, W. Va.

Additional data.--This station was discontinued Dec. 31, 1950. The following figures for the 1950 calendar year were omitted from WSP 1305 although the calendar year totals were given. Monthly mean discharge in cubic feet per second: October, 5.83; November, 7.06; December, 84.2. Monthly runoff in inches: October, 0.13; November, 0.16; December, 1.92. Figures of daily discharge were published in WSP 1173.

1775. Indian Creek at Indian Mills, W. Va.

Additional data.--This station was discontinued Dec. 31, 1950. The following figures for the 1950 calendar year were omitted from WSP 1305 although the calendar year totals were given. Monthly mean discharge in cubic feet per second: October, 20.9; November, 31.3; December, 295. Monthly runoff in inches: October, 0.13; November, 0.18; December, 1.80. Figures of daily discharge were published in WSP 1173.

1860. New River at Fayette, W. Va.

Correction.--Figure of discharge for maximum stage known, 53 ft Mar. 28, 1878, is published in error in WSP 1305. The figure should be 310,000 cfs instead of 31,000 cfs.

1975. Elk River at Clendenin, W. Va.

Revisions.--The momentary maximum discharge for the water year 1909, published in WSP 1305, has been revised to 19,200 cfs May 1, 1909.

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