



Prepared in cooperation with the West Virginia Division of Water and Waste Management

Summary of West Virginia Water-Resources Data through September 2008

By R.D. Evaldi, S.M. Ward, and J.S. White

Open-File Report 2009-1199

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Conversion Factors

Inch/Pound to SI

Multiply	By	To obtain
Length		
inch (in.)	2.54	centimeter (cm)
inch (in.)	25.4	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
Area		
acre	4,047	square meter (m ²)
acre	0.4047	square hectometer (hm ²)
acre	0.004047	square kilometer (km ²)
square mile (mi ²)	2.590	square kilometer (km ²)
Volume		
gallon (gal)	3.785	liter (L)
gallon (gal)	0.003785	cubic meter (m ³)
gallon (gal)	3.785	cubic decimeter (dm ³)
million gallons (Mgal)	3,785	cubic meter (m ³)
cubic foot (ft ³)	28.32	cubic decimeter (dm ³)
cubic foot (ft ³)	0.02832	cubic meter (m ³)
acre-foot (acre-ft)	1,233	cubic meter (m ³)
acre-foot (acre-ft)	0.001233	cubic hectometer (hm ³)
Flow rate		
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second (m ³ /s)
cubic foot per second per square mile [(ft ³ /s)/mi ²]	0.01093	cubic meter per second per square kilometer [(m ³ /s)/km ²]
gallon per minute (gal/min)	0.06309	liter per second (L/s)
gallon per day (gal/d)	0.003785	cubic meter per day (m ³ /d)
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m ³ /s)
Mass		
ton, short (2,000 lb)	0.9072	megagram (Mg)
ton per day (ton/d)	0.9072	metric ton per day
ton per day (ton/d)	0.9072	megagram per day (Mg/d)
ton per day per square mile [(ton/d)/mi ²]	0.3503	megagram per day per square kilometer [(Mg/d)/km ²]
ton per year (ton/yr)	0.9072	megagram per year (Mg/yr)
ton per year (ton/yr)	0.9072	metric ton per year

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$^{\circ}\text{F}=(1.8\times^{\circ}\text{C})+32$$

Temperature in degrees Fahrenheit (°F) may be converted to degrees Celsius (°C) as follows:

$$^{\circ}\text{C}=(^{\circ}\text{F}-32)/1.8$$

Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88), to the National Geodetic Vertical Datum of 1929 (NGVD 29), or to the Corps of Engineers Datum of 1912 (COE 12, also known as Fourth General Adjustment of 1912).

Horizontal coordinate information is referenced to the North American Datum of 1927 (NAD 27).

Altitude, as used in this report, refers to distance above the vertical datum.

Specific conductance is given in microsiemens per centimeter at 25 degrees Celsius ($\mu\text{S}/\text{cm}$ at 25 °C).

Concentrations of chemical constituents in water are given either in milligrams per liter (mg/L) or micrograms per liter ($\mu\text{g}/\text{L}$).

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS APPEAR IN THIS REPORT

(Note: In the online version of this report, clicking on the station number and name in the index will link with the page of the report that contains the station manuscript. Clicking on the station number and name on the manuscript page will link with the National Water Information System web page that summarizes all data available online for the station.)

NORTH ATLANTIC SLOPE BASINS

POTOMAC RIVER BASIN

North Branch Potomac Subbasin

01595200 STONY RIVER NEAR MOUNT STORM, WV.....	12
01595300 ABRAM CREEK AT OAKMONT, WV	13
01599500 NEW CREEK NEAR KEYSER, WV	14
01604500 PATTERSON CREEK NEAR HEADSVILLE, WV	15
01605002 PAINTER RUN NEAR FORT ASHBY, WV	16

South Branch Potomac Subbasin

01605500 SOUTH BRANCH POTOMAC RIVER AT FRANKLIN, WV	17
01605600 FRIENDS RUN NEAR FRANKLIN, WV	18
01605700 REEDS CREEK TRIBUTARY NEAR FRANKLIN, WV	18
01606000 NORTH FORK SOUTH BRANCH POTOMAC RIVER AT CABINS, WV	19
01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV	20
01606800 BRUSHY RUN NEAR PETERSBURG, WV	22
01606900 SOUTH MILL CREEK NEAR MOZER, WV	22
01607000 BIG SPRING FORK AT MASONVILLE, WV	23
01607300 BRUSHY FORK NEAR SUGAR GROVE, WV	23
01607500 SOUTH FORK SOUTH BRANCH POTOMAC RIVER AT BRANDYWINE, WV	24
01607510 HEAVENER RUN NEAR BRANDYWINE, WV.....	25
01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV.....	25
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01608070 SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV.....	27
01608100 WILLIAMS HOLLOW NEAR MOOREFIELD, WV.....	28
01608400 BUFFALO CREEK NEAR ROMNEY, WV	29
01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV	29

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01609650 LITTLE CACAPON RIVER AT FRENCHBURG, WV.....	31
01609800 LITTLE CACAPON RIVER NEAR LEVELS, WV	31
01610195 PARKER HOLLOW RUN AT NEEDMORE, WV	32
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01614000 BACK CREEK NEAR JONES SPRINGS, WV	38
01616425 HOPEWELL RUN AT LEETOWN, WV	39
01616500 OPEQUON CREEK NEAR MARTINSBURG, WV	40
01617000 TUSCARORA CREEK ABOVE MARTINSBURG, WV	41

Shenandoah Subbasin

01636500 SHENANDOAH RIVER AT MILLVILLE, WV	42
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OHIO RIVER BASIN

MONONGAHELA BASIN

Tygart Valley Subbasin

03049950 BACK FORK ABOVE HUTTONSVILLE, WV	44
03049970 RIFFLE CREEK NEAR HUTTONSVILLE, WV	44
03050000 TYGART VALLEY RIVER NEAR DAILEY, WV	44
03050400 TYGART VALLEY RIVER AT ELKINS, WV	45
03050500 TYGART VALLEY RIVER NEAR ELKINS, WV	46
03050650 UNNAMED RUN AT GILMAN, WV	47
03050800 ROARING CREEK AT NORTON, WV	47
03050900 GRASSY RUN AT NORTON, WV	48
03051000 TYGART VALLEY RIVER AT BELINGTON, WV	49
03051500 MIDDLE FORK RIVER AT MIDVALE, WV	50
03052000 MIDDLE FORK RIVER AT AUDRA, WV	51
03052300 BRIDGE RUN NEAR BUCKHANNON, WV	52
03052340 MUD LICK RUN NR BUCKHANNON, WV	53
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03057500 SKIN CREEK NEAR BROWNSVILLE, WV	63
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03061430 WHETSTONE RUN NEAR MANNINGTON, WV	73
03061435 HIBBS RUN NEAR MANNINGTON, WV	74
03061495 DAVY RUN AT KATY, WV	74
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03062213 STEWART RUN AT CROWN, WV	77
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Youghiogheny Subbasin

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03075670 MUDDY CREEK NEAR CRANESVILLE, WV	111
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Upper Ohio Subbasin

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Raccoon-Symmes Subbasin

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Barbour County, WV

390220080034901 Local number Bar-0017279
390228080035901 Local number Bar-0019279
391435080015701 Local number Bar-0127279

Berkeley County, WV

391920078032201 Local number Ber-0840280
392122078024001 Local number Ber-0562280
392124078024304 Local number Ber-0070280
392204077580601 Local number Ber-0090280
392407077545201 Local number Ber-0563281
392725077582401 Local number Ber-0445281
393043078041501 Local number Ber-0310281
393316077594401 Local number Ber-0369282
393316077594402 Local number Ber-0370282
393316077594403 Local number Ber-0371282
393413078062301 Local number Ber-0558282
393522077513101 Local number Ber-0431283

Braxton County, WV

384003080462601 Local number Brx-0255.....283

Brooke County, WV

401216080362703 Local number Brk-0066.....283
401939080355301 Local number Brk-0069.....284

Calhoun County, WV

385503081053301 Local number Cal-0094284

Clay County, WV

382648081055201 Local number Cla-0009284

Fayette County, WV

380154080571301 Local number Fay-0256.....285
381048081192801 Local number Fay-0124.....285
381052081190101 Local number Fay-0125.....285

Gilmer County, WV

385604080495901 Local number Gil-0196286

Grant County, WV

391652079181401 Local number Grt-0090286

391657079182901 Local number Grt-0091286

Greenbrier County, WV

374804080174001 Local number Grb-0147287
374809080173901 Local number Grb-0146287
375747080465901 Local number Grb-0156287

Hampshire County, WV

391257078404601 Local number Hmp-0360.....288
391724078235801 Local number Hmp-0131.....288
391859078413301 Local number Hmp-0182.....288
391900078413001 Local number Hmp-0393.....289
392428078241001 Local number Hmp-0301.....289

Hardy County, WV

385714078441301 Local number Hrd-0290289
390300079001201 Local number Hrd-0249290
390333078370801 Local number Hrd-0301290
390357078392101 Local number Hrd-0274290
390431078415901 Local number Hrd-0008290

Jefferson County, WV

391142077551701 Local number Jef-0525291
392104077554801 Local number Jef-0526291
392148077460301 Local number Jef-0541292
392457077501301 Local number Jef-0524292

Kanawha County, WV

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381549081221201 Local number Kan-0188.....292
381643081390001 Local number Kan-0194.....293
382055081375301 Local number Kan-0257.....293
382150081384101 Local number Kan-0306.....293
382515081504101 Local number Kan-0455.....294

Lewis County, WV

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390553080280801 Local number Lew-0194294
390553080280802 Local number Lew-0195295

Marion County, WV

393057080161901 Local number Mar-0291295
393101080150501 Local number Mar-0266295

Marshall County, WV

394935080504901 Local number Mal-0039.....296
395048080334001 Local number Mal-0411.....296
395608080452301 Local number Mal-0070.....296
395610080452501 Local number Mal-0066.....297

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385451082062001 Local number Mas-0858.....297

McDowell County, WV

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372608081530201 Local number Mcd-0156.....298
372634081524601 Local number Mcd-0157.....298

Mercer County, WV

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372623081071101 Local number Mer-0173.....299

Mineral County, WV

392114079081101 Local number Min-0162.....299
392200078532001 Local number Min-0173.....300
393018078455301 Local number Min-0158.....300

Mingo County, WV

373554081493401 Local number Mig-0131.....300

Monongalia County, WV

392923079571801 Local number Mng-0548.....301
393411079502301 Local number Mng-0047.....301
393733079573601 Local number Mng-0204.....301
393737079572901 Local number Mng-0209.....302
393946079571901 Local number Mng-0373.....302
394006080194801 Local number Mng-0564.....302

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373435080323101 Local number Mnr-0069.....303

Morgan County, WV

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393043078174001 Local number Mrg-0057.....303
393804078090401 Local number Mrg-0047.....304

Nicholas County, WV

381222080562601 Local number Nic-0052.....304
381301080562201 Local number Nic-0051.....304
381513081094201 Local number Nic-0198.....304

Ohio County, WV

400205080434301 Local number Ohi-0023.....305
400205080434303 Local number Ohi-0025.....305
400515080355601 Local number Ohi-0157.....305
400545080364601 Local number Ohi-0174.....306

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385008079222801 Local number Pen-0133.....306

Pocahontas County, WV

380630080074401 Local number Poc-0132.....306
380653080155301 Local number Poc-0256.....306
380708080102201 Local number Poc-0131.....307
381102080150901 Local number Poc-0135.....307

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392627079310501 Local number Pre-0040.....308
393012079502201 Local number Pre-0062.....308
393022079481201 Local number Pre-0064.....309
393040079435901 Local number Pre-0071.....309
393258079475101 Local number Pre-0080.....309
393303079474801 Local number Pre-0082.....309
393304079490101 Local number Pre-0084.....310
393306079474501 Local number Pre-0123.....310
393306079485801 Local number Pre-0085.....310
393326079481601 Local number Pre-0088.....311
393326079481602 Local number Pre-0089.....311

Putnam County, WV

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382559082015001 Local number Put-0189.....312
382610082012002 Local number Put-0217.....312
382631081512100 Local number Put-0244.....312
383153081554001 Local number Put-0621.....312
383334081512301 Local number Put-0686.....313
383415081584801 Local number Put-0714.....313
383552081594301 Local number Put-0780.....313

383650081585901 Local number Put-0813.....	314
383658081585401 Local number Put-0817.....	314
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Raleigh County, WV

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Randolph County, WV

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385100079522901 Local number Ran-0233.....	315
385341079575401 Local number Ran-0251.....	316
385509079311401 Local number Ran-0283.....	316

Ritchie County, WV

391226081024901 Local number Rit-0114.....	316
391303081060101 Local number Rit-0071.....	317

Taylor County, WV

391734080011901 Local number Tay-0026.....	317
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Tucker County, WV

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390122079264301 Local number Tuc-0080.....	318
390135079275601 Local number Tuc-0037.....	318
390605079254201 Local number Tuc-0101.....	318
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Tyler County, WV

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Wayne County, WV

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382205082304501 Local number Way-0144.....	320

Webster County, WV

382008080292801 Local number Web-0167.....	320
382254080271501 Local number Web-0166.....	321

Wetzel County, WV

392858080373401 Local number Wet-0073.....	321
393355080404401 Local number Wet-0005.....	321
393953080255201 Local number Wet-0025.....	322

Wood County, WV

391711081333401 Local number Woo-0102	322
391712081333201 Local number Woo-0162	322
391715081333701 Local number Woo-0115	323
391931081325003 Local number Woo-0137	323

Wyoming County, WV

373452081254301 Local number Wyo-0199.....	323
373602081203901 Local number Wyo-0167.....	323
373701081271301 Local number Wyo-0243.....	324
373710081265501 Local number Wyo-0245.....	324
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Summary of West Virginia Water-Resources Data through September 2008

By R.D. Evaldi, S.M. Ward, and J.S. White

Introduction

The West Virginia Water Science Center of the U.S. Geological Survey, in cooperation with State and Federal agencies, obtains a large amount of data pertaining to the water resources of West Virginia each water year. A water year is the 12-month period beginning October 1 and ending September 30. These data, accumulated during many years, constitute a valuable database for developing an improved understanding of the water resources of the State. These data are maintained in the National Water Information System (NWIS) and are available through its World-Wide Web interface, NWISWeb, at <http://waterdata.usgs.gov/wv/nwis>. Data can be retrieved in a variety of common formats, and a tutorial is available at <http://nwis.waterdata.usgs.gov/tutorial>. Location information for all continuous-record gaging stations operated in West Virginia through September 2008 is provided in this report, as well as statistical summaries of the available daily records. This report can serve as an index to the daily records data available on the World-Wide Web.

Hydrologic data for nearly all of the gaging stations identified in this report are also available in the annual publication series titled Water-Resources Data – West Virginia. This series of annual reports for West Virginia began with the 1961 water year with a report that contained only data relating to quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to include data on quantities of surface water, quality of surface water and groundwater, and groundwater levels.

Prior to the introduction of the Water-Resources Data – West Virginia series and for several water years concurrent with it, water-resources data for West Virginia were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage

through September 1960 were published annually under the title Surface-Water Supply of the United States, Parts 6A and 6B. For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title Quality of Surface Water of the United States, and water levels for the 1935 through 1974 water years were published under the title Ground-Water Levels in the United States. Many of the above mentioned Water-Supply Papers are available at the USGS Publications Warehouse (<http://pubs.er.usgs.gov>), and most of the others may be found in the collections of large libraries or may be purchased from the U.S. Geological Survey, Books and Open-File Reports, Federal Center, Box 25425, Denver, Colorado 80225.

Annual reports on hydrologic data are published by the Geological Survey for all states, and each has an identification number consisting of the two-letter state abbreviation, the last two digits of the water year, and the volume number. For example, the 2005 water year report for West Virginia is identified as U.S. Geological Survey Water-Data Report WV-05-01. Water-Data Reports for West Virginia for 2001-2005 are available online at <http://pubs.usgs.gov/wdr/#WV>. Water-Data Reports for water years prior to 2006 are for sale in paper copy or microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161. Since the 2006 water year, the report is published online only and is available at <http://wdr.water.usgs.gov/>.

When substantial errors in published records are discovered, the records are revised. Such revisions are routine and are made to records regardless of the age of the original records. Revisions have been made for many stations for which data are published in this report. The USGS National Water Information System always contains the most recent data revisions. For critical applications, data should be obtained from NWISWeb rather than from previously published reports.

Data Presentation

In this report, a summary of the gaging station history through September 2008 is presented. The records published for each continuous record surface-water station consist of the following elements, when available: (1) the station manuscript; (2) extreme values for the period of record; (3) a tabular statistical summary of monthly mean discharge data; (4) a discharge summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Downstream Order and Station Number

Since October 1, 1950, surface-water hydrologic-station records in USGS reports have been listed in order of downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary entering between two mainstream stations is listed between those stations. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is located with respect to the stream to which it is immediately tributary is indicated by an indentation in that list of stations in the front of this report. Each indentation represents one rank. This downstream order and system of indentation indicates which stations are on tributaries between any two stations and the rank of the tributary on which each station is located.

Numbering System for Surface-Water Continuous-Record Sites

As an added means of identification, most surface-water hydrologic stations and some partial-record stations have been assigned a station number. These station numbers are in the same downstream order used in this report. In assigning a station number, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list composed of both types of stations. Gaps are consecutive. The complete 8-digit number for each station such as 01595200, which appears just to the left of the station name, includes a 2-digit part number "01" plus the 6-digit (or 8-digit) downstream order number "595200." The stations are numbered in downstream order as described above between stations of consecutive eight-digit numbers.

Numbering System for Wells and Miscellaneous Sites

The USGS well and miscellaneous site-numbering system is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, and the next seven digits denote degrees, minutes, and seconds of longitude; the last two digits are a sequential number for wells within a 1-second grid. In the event that the latitude-longitude coordinates for a well and miscellaneous site are the same, a sequential number such as "01," "02," and so forth, would be assigned as is done for wells. The eight-digit, downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are made. Wells in West Virginia also are identified by a local number that consists of an abbreviation of the county name and a four-digit number.

Explanation of West Virginia Water-Resources Records

Explanation of Surface-Water Stage and Discharge Records

The base data collected at gaging stations in West Virginia consist of records of stage and measurements of discharge of streams, and stage of lakes or reservoirs. Observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determining the quality of the stage readings and computations of daily flow. Records of stage are obtained from a water-stage recorder or from readings by an observer. Measurements of discharge are made with a current meter or Acoustic Doppler current profiler, using the general methods adopted by the USGS as described by Rantz and others (1982), and Simpson (2001).

For streamgages, discharge-rating tables for any stage are prepared from stage-discharge curves. If extensions to the rating curves are necessary to express discharge greater than measured, the extensions are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or computation of flow over dams and weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables; then the monthly and yearly mean discharges are computed from the daily values. If the stage-discharge relation is subject to change because of changes in the physical features of the stream channel or controlling section, or temporary blockage by debris or aquatic growth, the daily mean discharge is computed by the shifting-control method in which correction factors are based on individual discharge measurements and field notes of channel and control observations.

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records. Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff because of the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or other factors.

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

At some streamgages in West Virginia, the stage-discharge relation is affected by ice in the winter; therefore, computation of the discharge in the usual manner is impossible. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter-discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and field personnel, and comparable records of discharge from other stations in the same or nearby basins.

For some streamgages, periods of time occur when no gage-height record is obtained or the recorded gage height is faulty and cannot be used to compute daily discharge or contents. Such a situation can happen when the recorder stops or otherwise fails to operate properly, the intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records from other stations in the same or nearby basins.

Values of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft³/s; to the nearest tenths between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to three significant figures above 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value.

Station Manuscript

The manuscript provides, under various headings, descriptive information, such as station location, period of record, historical extremes outside the period of record, remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge. Comments follow that clarify information presented under the various headings of the station description.

LOCATION.-Location information is obtained from the most accurate maps available. The location of the streamgage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages above the mouth also are provided.

DRAINAGE AREA.-Drainage areas are measured using the most accurate maps available and are updated as better maps become available.

PERIOD OF RECORD.-This term indicates the time period for which records have been published for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that its flow reasonably can be considered equivalent to flow at the present station. The type of record published for each time period indicated is shown in parenthesis. Types of data described include some of the following:

Daily discharge is the mean for the day of hourly (or more frequent) discharge record, unless otherwise noted.

Daily mean gage height is the mean for the day of hourly (or more frequent) gage-height record, unless otherwise noted.

Peaks are values of discharge greater than a base discharge and the associated gage heights but may consist only of the annual maxima if discharge does not exceed the peak base during the year.

Annual maxima are the greatest instantaneous discharge and gage height during the year.

Annual maximum discharge is the greatest instantaneous discharge during the year.

Annual maximum gage height is the greatest instantaneous gage height during the year.

GAGE.-The type of gage in current use, the datum of the current gage referred to a standard datum, and a condensed history of the types, locations, and datums of previous gages are given under this heading. The datum is described in feet above North American Vertical Datum of 1988 (NAVD 88), if known. The NAVD 88 value may be reported with a greater precision than can be verified if it is indicated as being a VERTCON conversion from National Geodetic Vertical Datum of 1929 (NGVD 29). VERTCON refers to a program developed by the National Geodetic Survey to transform between NGVD 29 and NAVD 88. The NAVD 88 and NGVD 29 datums are not known for all sites. At some sites, the gage may have been referenced to another datum system such as Ohio River Datum (also known as Sandy Hook Datum) or COE 12, and these datums are reported. COE 12 datum is also known as the Fourth General Adjustment of 1912. It is referred to as COE 12 because the U.S. Army Corps of Engineers continued to use the 1912 datum for some time after NGVD 29 was available.

REMARKS.- Information is presented relative to special methods of computation, to conditions that affect natural flow at the station, and to other pertinent items.

EXTREMES FOR PERIOD OF RECORD.- Presents ranges of values obtained during the stated period of record. This usually refers to periods of daily record but may also refer to other types of continuous record such as weekly observed data. Some annual extremes may have been obtained systematically outside of the period of daily data, and if an extreme is exceeded during such times, it is listed in **EXTREMES OUTSIDE PERIOD OF DAILY RECORD.**

EXTREMES OUTSIDE PERIOD OF RECORD.-Information here documents major floods or unusually low flows that occurred outside the stated period of record.

REVISED RECORDS.-If a critical error in published records was discovered and revised, this paragraph indicates in which previously published report the revised data may be obtained. Appropriate updates are also made in the USGS distributed data system, NWIS, and subsequently to its Web-based national data system, NWISWeb (<http://water.usgs.gov/nwis/nwis>). Users are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent data updates. Updates to NWISWeb are made on an annual basis.

Statistics of Monthly Mean Discharge

A tabular summary of the mean (line headed MEAN), maximum (MAX), and minimum (MIN) of monthly mean discharges for each month for a designated period is provided below the manuscript. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those values. The designated period is expressed as FOR WATER YEARS __-__,

BY WATER YEAR (WY), and the first and last water years of continuous daily record are listed in PERIOD OF RECORD paragraph in the station manuscript. The designated period consists of all of the station record within the specified water years, including complete months of record for partial water years but may not coincide with the entire period of record for the station if daily discharge records were discontinued at a station but other types or frequency of records were continued. The water years for which the statistics are computed are consecutive, unless a break in the station record is indicated in the manuscript.

Discharge Summary Statistics

A table titled DISCHARGE SUMMARY STATISTICS follows the statistics of monthly mean data tabulation. This table consists of two columns with the first column containing the line headings of the statistics being reported in the second column. The table provides a statistical summary of yearly, daily, and instantaneous flows for the period of continuous daily record. The designated period selected, WATER YEARS __-__, will consist of all of the station records within the specified water years, including complete months of record for partial water years, but may not coincide with the period of record for the station. The water years for which the statistics are computed are consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (see line headings below), except for the ANNUAL 7-DAY MINIMUM statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years. The date of the occurrence of each extreme value of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the table or in the footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally an EXTREMES OUTSIDE PERIOD OF DAILY RECORD paragraph may be included in the manuscript that will contain maximum values that exceed those listed in the DISCHARGE SUMMARY STATISTICS table.

Some of the DISCHARGE SUMMARY STATISTICS tables also contain selected flow statistics representative of climatic years 1930 to 2002 as analyzed by Wiley (2006). A climatic year is from April 1 through March 31, ending in the year indicated. The 1930 to 2002 period may not coincide with the period of record of the individual station, and the reader is referred to Wiley (2006) for an explanation of the methods used in these analyses.

The following summary statistics data are provided with each continuous record of discharge. Comments that follow clarify information presented under the various line headings of the DISCHARGE SUMMARY STATISTICS table.

Annual mean. -The arithmetic mean for the individual daily mean discharges for the year noted or for the designated period.

Highest annual mean. -The maximum annual mean discharge occurring for the designated period.

Lowest annual mean. -The minimum annual mean discharge occurring for the designated period.

Highest daily mean.-The maximum daily mean discharge for the designated period.

Lowest daily mean.-The minimum daily mean discharge for the designated period.

Annual seven-day minimum.-The lowest mean discharge for 7 consecutive days for a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. This value should not be confused with the 7-day 10-year low-flow statistic.

Maximum peak flow.-The maximum instantaneous peak discharge occurring for the designated period. The maximum instantaneous peak stage occurring for the designated period may be included in parentheses below the peak discharge value. Occasionally the maximum stage is affected by backwater or some other factor, and a footnote may be used to provide further information.

Instantaneous low flow.-The minimum instantaneous discharge occurring for the designated period.

Annual runoff.-Indicates the total quantity of water in runoff for a drainage area for the designated period. Units of measurement used in presenting annual runoff data are as follows:

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

Cubic feet per square mile (cfsm) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.

Inches (inches) indicate the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 percent duration.-The discharge that has been exceeded 10 percent of the time for the designated period.

50 percent duration.-The discharge that has been exceeded 50 percent of the time for the designated period.

90 percent duration.-The discharge that has been exceeded 90 percent of the time for the designated period.

1-day 10-yr low flow.-The 1-day mean low flow that occurs on average once in 10 years.

7-day 10-yr low flow.-The 7-day mean low flow that occurs on average once in 10 years.

30-day 5-yr low flow.-The 30-day mean low flow that occurs on average once in 5 years.

1-day 3-yr bio-based low flow.-The biologically based minimum average streamflow for 1 day expected on average once in 3 years, determined by use of methods described by the U.S. Environmental Protection Agency (1986).

4-day 3-yr bio-based low flow.-The biologically based minimum average streamflow for 4 consecutive days expected on average once in 3 years, determined by use of methods described by the U.S. Environmental Protection Agency (1986).

EPA harmonic mean.-The U.S. Environmental Protection Agency (USEPA) method for computation of harmonic-mean flows described by Rossman (1990). The average of the reciprocals of the daily mean flows is computed for a station record. The harmonic-mean flow is the reciprocal of that average. The USEPA harmonic-mean flow is the weighted average of the harmonic mean of the nonzero flows and the arithmetic mean of the zero flows; the harmonic mean of the nonzero flows is multiplied by the number of nonzero days and divided by the total number of days.

Explanation of Continuous Surface-Water Quality Records

Data on surface-water quality ordinarily are obtained at or near streamgages because discharge data are useful in the interpretation of surface-water quality. Records of surface-water quality in this report include only continuous measurement data and summaries of the records obtained are given immediately following the discharge records at these stations. The descriptive heading for water-quality records gives the period of record for all water-quality data, the period of daily record for characteristics that are measured on a daily basis (specific conductance, water temperature, sediment discharge, and so forth), extremes for the period of record, and general remarks.

The continuous-monitor records consist of daily maximum and minimum values (and sometimes mean or median values) for each constituent measured and are usually based on 1-hour intervals of recorded data beginning at 0100 hours and ending at 2400 hours for the day of record. Some records were obtained by observers once daily.

Water temperatures are measured at most of the water-quality stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross section.

During periods of rapidly changing flow or rapidly changing concentration, samples may be collected frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration are computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples are collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observation, such data are useful in establishing seasonal relations between water quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

Explanation of Groundwater Level Records

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

Water-level data are presented in alphabetical order by county, and then by the 15-digit site identification number. The heading lists the aquifer that the well taps. Comments follow that clarify information presented under the various headings of the station description.

LOCATION.-This paragraph follows the well-identification number and reports the hydrologic-unit number and a geographic point of reference. Latitudes and longitudes used in this report are referenced to the North American Vertical Datum of 1988, unless otherwise specified.

WELL CHARACTERISTICS.-This entry describes the well in terms of depth, casing diameter and depth or screened interval, method of construction, use, and changes since construction.

DATUM.-This entry describes both the measuring point and the land-surface elevation at the well. The elevation of the land-surface datum is described in feet above the datum; it is reported with a precision depending on the method of determination. The measuring point is described physically (such as top of casing, top of instrument shelf, and so forth) and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above North American Vertical Datum of 1988 (NAVD 88), if known. The NAVD 88 value may be reported with a greater precision than can be verified if it is indicated as being a VERTCON conversion from National Geodetic Vertical Datum of 1929 (NGVD 29). VERTCON refers to a program developed by the National Geodetic Survey to transform between NGVD 29 and NAVD 88.

REMARKS-.This entry describes factors that may affect the water level in a well or the measurement of the water level.

PERIOD OF RECORD.-This entry indicates the time period for which records are published for the well, the month and year at the start of water-level records collection.

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

References Cited

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Washington, D.C., U.S. Environmental Protection Agency, Office of Water, EPA 440/4-86-014,

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West Virginia Water Resources Data Through September 2008

Surface-Water Stage, Discharge, and Water Quality

01595200 STONY RIVER NEAR MOUNT STORM, WV

Potomac Basin
North Branch Potomac Subbasin

LOCATION.--Lat 39°16'10", long 79°15'45" referenced to North American Datum of 1927, Grant County, WV, Hydrologic Unit 02070002, on left bank 100 ft downstream from highway bridge on U.S. Highway 50, 1.0 mi west of Mount Storm, and at mile 6.4.

DRAINAGE AREA.--48.7 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1961 to September 2008 (daily discharge and annual maxima).

REVISED RECORDS.--WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,554.12 ft above NAVD 88 (2,554.54 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow regulated by Stony River Reservoir, 14.0 mi upstream from station until use of reservoir discontinued June 1987. Regulation since 1963 by Virginia Electric and Power Company dam (Mount Storm Lake), 4.0 mi upstream from station.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1962 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	44.7	86.1	106	114	137	219	159	122	70.4	49.3	34.1	40.8
Max	234	669	301	267	361	537	371	271	237	205	200	314
(WY)	(1977)	(1986)	(1973)	(1996)	(1994)	(1963)	(1987)	(1988)	(1981)	(1978)	(1996)	(1996)
Min	3.36	5.53	8.36	20.9	21.3	46.9	51.8	28.3	9.91	4.36	3.28	3.89
(WY)	(1992)	(1999)	(1999)	(1981)	(1978)	(1990)	(1995)	(1964)	(1964)	(1968)	(1999)	(1985)

DISCHARGE SUMMARY STATISTICS		
Water Years 1962 - 2008		
Annual mean	98.4	
Highest annual mean	166	1996
Lowest annual mean	42.0	1964
Highest daily mean	9,880	Nov 5, 1985
Lowest daily mean	1.3	Aug 28, 1988
Annual seven-day minimum	1.7	Aug 28, 1988
Maximum peak flow	^a 14,000	Nov 5, 1985 (^b 16.41 ft stage)
Instantaneous low flow	1.3	Aug 22, 1988 ^c
10 percent duration	232	
50 percent duration	49	
90 percent duration	8.2	

^a From rating curve extended above 7,500 ft³/s on basis of slope-area measurement of peak flow.

^b From floodmarks.

^c Also Aug. 23, 28, 29, 1988.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: December 1961 to March 1974, September 1974 to September 1995, October 1996 to September 2008.

INSTRUMENTATION.--Temperature recorder (continuous ethyl alcohol-actuated thermograph) December 1961 to October 2001. Satellite telemetry with thermister installed October 2001.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 31.3°C, Aug. 3, 2002, Aug. 14, 2003; minimum, -0.5°C, Jan. 16-20, 1999.

01595300 ABRAM CREEK AT OAKMONT, WV

Potomac Basin

North Branch Potomac Subbasin

LOCATION.--Lat 39°22'00", long 79°10'45" referenced to North American Datum of 1927, Mineral County, WV, Hydrologic Unit 02070002, on downstream side of right wingwall of highway bridge, 0.5 mi east of Oakmont, 1.2 mi downstream from Emory Run, 1.8 mi southwest of Elk Garden, and at mile 1.9.

DRAINAGE AREA.--42.6 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1956 to September 1982 (daily discharge and peaks).

REVISED RECORDS.--WRD WV-78-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is approximately 1,839.51 ft above NAVD 88 (VERTCON conversion of 1,840 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 18, 1955, reached a stage of 9.82 ft, from floodmarks, discharge, 3,830 ft³/s, from rating curve extended above 1,200 ft³/s on basis of contracted-opening measurement of peak discharge. Discharge, 17,500 ft³/s, Sept. 6, 1996, from slope-area measurement of peak discharge, highest since 1924.

DISCHARGE SUMMARY STATISTICS	
Water Years 1956 - 1982	
Annual mean	68.5
Highest daily mean	1,480 Mar 5, 1963
Lowest daily mean	0.20 Sep 13, 1959
Annual seven-day minimum	0.20 Sep 13, 1959
Maximum peak flow	^a 2,310 Jul 3, 1978 (8.17 ft stage)
Instantaneous low flow	0.20 Sep 13, 1959 ^b
10 percent duration	164
50 percent duration	36
90 percent duration	4.1
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.41
7 day 10 yr low flow	0.50
30 day 5 yr low flow	1.97
1 day 3 yr bio-based low flow	0.17
4 day 3 yr bio-based low flow	0.37
10 percent duration	168
50 percent duration	36.9
90 percent duration	4.3
EPA harmonic mean	9.11

^a From rating curve extended above 1,200 ft³/s on basis of contracted-opening measurement of peak discharge at gage height of 9.82 ft.

^b Also Sept. 14-19, 1959, Sept 14-18, 1964.

01599500 NEW CREEK NEAR KEYSER, WV

Potomac Basin
North Branch Potomac Subbasin

LOCATION.--Lat 39°24'35", long 79°00'05" referenced to North American Datum of 1927, Mineral County, WV, Hydrologic Unit 02070002, on right bank of highway bridge, 0.2 mi downstream from Block Run, 1.5 mi south of Keyser, and at mile 3.0.

DRAINAGE AREA.--46.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1930 to September 1931, and July 1947 to September 1963 (daily discharge and peaks), October 1964 to September 1969 (annual maxima).

REVISED RECORDS.--OFR 95-292: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is approximately 869.40 ft above NAVD 88 (VERTCON conversion of 870 ft above NGVD 29, from topographic map). Prior to Sept. 30, 1931, staff gage at site 0.1 mile upstream at different datum. July 21, 1947 to July 18, 1948, staff gage at present site and datum.

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1936 reached a stage of 7.85 ft.

DISCHARGE SUMMARY STATISTICS	
Water Years 1930 - 1963	
Annual mean	44.1
Highest daily mean	2,060 Aug 18, 1955
Lowest daily mean	0.40 Sep 12, 1959
Annual seven-day minimum	0.57 Sep 9, 1959
Maximum peak flow	^a 3,110 Aug 18, 1955 (7.40 ft stage)
Instantaneous low flow	0.40 ^b Sep 10, 1959
10 percent duration	110
50 percent duration	15
90 percent duration	2.7
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	1.24
7 day 10 yr low flow	1.31
30 day 5 yr low flow	2.05
1 day 3 yr bio-based low flow	1.09
4 day 3 yr bio-based low flow	1.30
10 percent duration	115
50 percent duration	19.3
90 percent duration	2.9
EPA harmonic mean	8.40

^a From rating curve extended above 810 ft³/s on basis of slope-area measurement at gage height 6.37 ft.

^b Also Sept. 11-13, 1959, Aug. 30, 1960.

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV

Potomac Basin
North Branch Potomac Subbasin

LOCATION.--Lat 39°26'35", long 78°49'20" referenced to North American Datum of 1927, Mineral County, WV, Hydrologic Unit 02070002, on right bank 100 ft downstream from Hazel Run, 1.0 mi downstream from Cabin Run, 4.0 mi northeast of Headsville, 8.0 mi east of Keyser, and at mile 13.0.

DRAINAGE AREA.--221 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1938 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 951: 1939-40. WDR-US-2007: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 624.26 ft above NAVD 88 (VERTCON conversion of 624.90 ft above NGVD 29, levels by U.S. Army Corps of Engineers). Prior to Oct. 11, 1946, nonrecording gage on bridge 1.0 mi upstream at datum 6.14 ft higher. Oct. 11-23, 1946, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Since 1963, the flow from 115 mi² upstream from the station is partially controlled, but not diverted, by several floodwater detention reservoirs with the total combined detention capacity of 19,887 acre-ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1938 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	70.7	90.1	163	207	298	429	318	226	108	59.3	55.7	54.1
Max	745	901	825	908	893	1,346	1,085	763	459	415	586	767
(WY)	(1943)	(1986)	(1973)	(1996)	(1994)	(1963)	(1993)	(1988)	(2003)	(1989)	(1996)	(1996)
Min	2.24	4.39	9.70	18.1	22.2	54.1	54.1	21.2	8.38	3.14	5.20	2.80
(WY)	(1992)	(1992)	(1944)	(2002)	(2002)	(2006)	(1969)	(1969)	(1999)	(1999)	(1966)	(1991)

DISCHARGE SUMMARY STATISTICS		
Water Years 1938 - 2008		
Annual mean	173	
Highest annual mean	387	1996
Lowest annual mean	35.1	1969
Highest daily mean	11,100	Oct 15, 1942
Lowest daily mean	0.48	Aug 23, 1999
Annual seven-day minimum	0.87	Aug 17, 1999
Maximum peak flow	^a 16,000	Aug 19, 1955 (12.20 ft stage)
Instantaneous low flow	0.45	Aug 23, 24, 1999
Annual runoff (cfsm)	0.781	
Annual runoff (inches)	10.61	
10 percent duration	447	
50 percent duration	61	
90 percent duration	10	
Climatic Years 1930 - 2002 (Wiley 2006)		
1 day 10 yr low flow	2.40	
7 day 10 yr low flow	2.91	
30 day 5 yr low flow	5.88	
1 day 3 yr bio-based low flow	1.96	
4 day 3 yr bio-based low flow	2.40	
10 percent duration	436	
50 percent duration	60.0	
90 percent duration	9.9	
EPA harmonic mean	25.4	

^a From rating curve extended above 4,900 ft³/s on basis of contracted-opening measurement of peak flow.

01605002 PAINTER RUN NEAR FORT ASHBY, WV

Potomac Basin
North Branch Potomac Subbasin

LOCATION.--Lat 39°29'08", long 78°45'37" referenced to North American Datum of 1927, Mineral County, WV, Hydrologic Unit 02070002.

DRAINAGE AREA.--1.76 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 2002 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 699.35 ft above NAVD 88 (VERTCON conversion of 700.0 ft above NGVD 29).

REMARKS.--Dam name: Patterson Creek No. 46

Surface area: 14 acres

Normal Pool = 20.6 ft (Normal Storage = 215 acre-ft)

Top of Riser = 31.1 ft

Emergency Spillway = 38.7 ft

Top of Dam = 47.6 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 28.54 ft, Mar. 29, 2005; minimum gage height, 18.75 ft, Oct. 25, 2004.

01605500 SOUTH BRANCH POTOMAC RIVER AT FRANKLIN, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 38°38'08", long 79°20'17" referenced to North American Datum of 1927, Pendleton County, WV, Hydrologic Unit 02070001, on left bank 0.5 mi southwest of Franklin, 2 mi upstream from Friends Run, 2.5 mi downstream from Thorn Creek, and at mile 112.5.

DRAINAGE AREA.--179 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1940 to September 1969, and October 1976 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,692.1 ft above NAVD 88 (VERTCON conversion of 1,692.5 ft above NGVD 29, U.S. Army Corps of Engineers bench mark).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1936 reached a stage of about 13 ft, discharge, 18,500 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1940 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	80.4	144	164	209	251	398	297	235	139	72.3	76.8	85.0
Max	546	2,219	496	815	668	832	797	665	664	381	351	750
(WY)	(1977)	(1986)	(1997)	(1996)	(1998)	(1963)	(1987)	(1996)	(1940)	(1949)	(1984)	(1996)
Min	20.0	25.5	23.5	32.5	45.6	80.8	90.2	59.3	33.7	27.8	23.3	21.4
(WY)	(1964)	(1966)	(1966)	(1981)	(2002)	(1981)	(1988)	(1941)	(1964)	(1964)	(1966)	(1963)

DISCHARGE SUMMARY STATISTICS

Water Years 1940 - 2008	
Annual mean	178
Highest annual mean	344 2003
Lowest annual mean	85.2 1999
Highest daily mean	25,000 Nov 4, 1985
Lowest daily mean	14 Sep 7-12, 1966
Annual seven-day minimum	14 Sep 6, 1966
Maximum peak flow	^a 44,000 Nov 4, 1985 (^b 22.58 ft stage)
Instantaneous low flow	13 Jan 17, 1966
Annual runoff (cfsm)	0.994
Annual runoff (inches)	13.51
10 percent duration	376
50 percent duration	90
90 percent duration	32
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	23.5
7 day 10 yr low flow	25.6
30 day 5 yr low flow	28.9
1 day 3 yr bio-based low flow	24.3
4 day 3 yr bio-based low flow	25.8
10 percent duration	366
50 percent duration	96.6
90 percent duration	34.3
EPA harmonic mean	73.7

^a From rating curve extended above 15,000 ft³/s on basis of slope-area measurement of peak flow.

^b From floodmarks.

01605600 FRIENDS RUN NEAR FRANKLIN, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 38°39'23", long 79°23'31" referenced to North American Datum of 1927, Pendleton County, WV, Hydrologic Unit 02070001, on right bank 50 ft upstream from culvert on Secondary State Route 5/9, 300 ft from intersection with U.S. Highway 33, 3.4 miles west of Franklin, and at mile 4.5.

DRAINAGE AREA.--4.39 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1969 to September 1977 (daily discharge and peaks).

REVISED RECORDS.--WRD WV-75-1: 1971(M), 1972-74 (P). OFR 95-292: Drainage area.

GAGE.--Water-stage and rainfall recorders and culvert control. Concrete dam since June 9, 1970. Datum of gage is approximately 2,199.55 ft above NAVD 88 (VERTCON conversion of 2,200 ft above NGVD 29, from topographic map).

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS	
Water Years 1969 - 1977	
Annual mean	3.56
Highest daily mean	116 Oct 18, 1975
Lowest daily mean	^a 0.00 Jun 7, 1969
Annual seven-day minimum	0.00 Jun 26, 1969
Maximum peak flow	^b 192 Oct 18, 1975 (4.52 ft stage)
Instantaneous low flow	0.00 (a)
10 percent duration	9.0
50 percent duration	1.5
90 percent duration	0.08

^a No flow at times most years.

^b From rating extended above 51 ft³/s on basis of computations of flow through culvert and road overflow.

01605700 REEDS CREEK TRIBUTARY NEAR FRANKLIN, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 38°41'52", long 79°24'18" referenced to North American Datum of 1927, Pendleton County, WV, Hydrologic Unit 02070001, at culvert on U.S. Highway 33, 0.7 mi upstream from mouth, and 5.0 mi northwest of Franklin.

DRAINAGE AREA.--0.23 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1971 (annual maximum discharge), October 1971 to September 1972 (annual maxima), October 1972 to September 1973 (annual maximum discharge), October 1973 to September 1977 (annual maxima). Water years 1965-71 and 1973-77 published in OFR 80-560. Prior to publication in WRIR 00-4080 published as Unnamed Run on North Fork Mountain near Franklin.

REVISED RECORDS--OFR 2008-1087: Drainage area.

GAGE.--Crest-stage gage. Datum of gage is 3,158.40 ft above NAVD 88 (VERTCON conversion of 3,158.88 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45 ft³/s, date unknown in 1976, gage height, 4.44 ft.

01606000 NORTH FORK SOUTH BRANCH POTOMAC RIVER AT CABINS, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 38°59'04", long 79°14'02" referenced to North American Datum of 1927, Grant County, WV, Hydrologic Unit 02070001, on right bank 10 ft upstream from bridge on County Route 28/11, 2 mi downstream from Jordan Run, 6 mi west of Petersburg, at Cabins, and at mile 2.9.

DRAINAGE AREA.--310 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1940 to September 1961 (daily discharge and peaks), October 1961 to September 1978 (annual maxima), October 1978 to September 1980, and April 1998 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 1272: 1945. WDR-US-2006: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,045.42 ft above NAVD 88 (VERTCON conversion of 1,045.85 ft above NGVD 29). Prior to Oct. 1, 1980, at site 370 ft upstream at datum 4.28 ft higher. Prior to Oct. 1, 1965, published as North Fork of South Branch Potomac River at Cabins.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 17, 1936, reached a stage of 12.80 ft, from floodmarks at site 370 ft upstream at datum then in use, discharge not determined. Discharge, 90,000 ft³/s, Nov. 5, 1985, from slope-area measurement, highest since 1878. Estimated discharge, 80,000 ft³/s, Sept. 6, 1996, from modification of Nov. 5, 1985, slope-area measurement, highest since 1986.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1940 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	148	232	404	497	657	897	809	591	317	137	135	135
Max	913	994	1,114	1,053	1,473	1,724	1,703	1,404	1,133	655	767	678
(WY)	(1980)	(2004)	(1949)	(1952)	(1961)	(2007)	(1958)	(2003)	(2003)	(1949)	(1955)	(1950)
Min	7.08	16.2	30.2	116	142	228	229	134	55.6	16.9	12.0	6.83
(WY)	(1954)	(1954)	(1999)	(1956)	(1941)	(2006)	(1955)	(1941)	(1999)	(1999)	(1999)	(1953)

DISCHARGE SUMMARY STATISTICS		
Water Years 1940 - 2008		
Annual mean	410	
Highest annual mean	814	2003
Lowest annual mean	213	1959
Highest daily mean	10,600	Aug 18, 1955
Lowest daily mean	5.0	Oct 1, 1953 ^a
Annual seven-day minimum	5.1	Sep 30, 1953
Maximum peak flow	^b 90,000	Nov 5, 1985 ^c
Instantaneous low flow	5.0	Oct 1, 1953 ^a
Annual runoff (cfsm)	1.32	
Annual runoff (inches)	17.99	
10 percent duration	1,000	
50 percent duration	195	
90 percent duration	26	
Climatic Years 1930-2002 (Wiley, 2006)		
1 day 10 yr low flow	6.49	
7 day 10 yr low flow	6.97	
30 day 5 yr low flow	11.8	
1 day 3 yr bio-based low flow	4.98	
4 day 3 yr bio-based low flow	5.49	
10 percent duration	942	
50 percent duration	193	
90 percent duration	24.6	
EPA harmonic mean	65.7	

^a Also Oct. 2-5, 9-11, 1953.

^b From slope-area measurement.

^c Stage not determined for Nov. 5, 1985 peak.

01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 38°59'28", long 79°10'34" referenced to North American Datum of 1927, Grant County, WV, Hydrologic Unit 02070001, on right bank 1.1 mi downstream from North Fork South Branch Potomac River, 2.6 mi west of Petersburg, and at mile 74.7.

DRAINAGE AREA.--651 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1928 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 951: 1939-41. WSP 1141: 1932, 1933(M), 1936-38. WDR WV-US-2006: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 967.87 ft above NAVD 88 (VERTCON conversion of 968.34 ft above NGVD 29). Prior to Dec. 4, 1928, nonrecording gage and June 1928 to Nov. 5, 1985, water-stage recorder at site 1,125 ft downstream at datum 962.00 ft above COE 12. Nov. 5, 1985, to June 22, 1994, and October 23, 1996 to current year, water-stage recorder at present site and datum. June 22, 1994, to October 23, 1996, water-stage recorder at site 325 ft downstream at datum 2.34 ft lower.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877 reached a stage of 21.2 ft, from floodmarks at site and datum then in use, discharge, about 59,000 ft³/s. Flood of 1924 reached a stage of 19.2 ft, from floodmarks at site and datum then in use, discharge, about 45,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1928 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	322	512	720	923	1,143	1,657	1,304	1,036	550	295	281	276
Max	1,863	5,569	2,511	3,386	3,519	4,090	2,888	3,546	2,196	1,479	1,601	2,968
(WY)	(1977)	(1986)	(1973)	(1996)	(1994)	(1936)	(1993)	(1996)	(2003)	(1949)	(1996)	(1996)
Min	49.3	62.7	95.1	143	212	402	398	233	125	63.9	54.1	52.3
(WY)	(1931)	(1931)	(1966)	(1981)	(1934)	(2006)	(1986)	(1930)	(1999)	(1999)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1928 - 2008	
Annual mean	749
Highest annual mean	1,619 1996
Lowest annual mean	365 1969
Highest daily mean	77,000 Nov 5, 1985
Lowest daily mean	43 Sep 27, 1959 ^a
Annual seven-day minimum	44 Sep 6, 1966
Maximum peak flow	^b 130,000 Nov 5, 1985 (^c 25.40 ft stage)
Instantaneous low flow	42 Sep 28, 1959 ^d
Annual runoff (cfsm)	1.15
Annual runoff (inches)	15.64
10 percent duration	1,680
50 percent duration	384
90 percent duration	96
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	51.2
7 day 10 yr low flow	53.8
30 day 5 yr low flow	68.3
1 day 3 yr bio-based low flow	49.0
4 day 3 yr bio-based low flow	50.5
10 percent duration	1,660
50 percent duration	375
90 percent duration	95.1
EPA harmonic mean	233

^a Also Sept. 28, 29, 1959, Sept. 11, 12, 1966.

^b From rating curve extended above 16,700 ft³/s on basis of slope-area measurement of peak flow, highest since 1878.

^c From floodmarks at former site at gage datum 961.53 ft above NAVD 88.

^d Also Sept. 29, 1959, Sept. 11, 12, 1966.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: January 1947 to September 1953, November 1954 to June 1965, October 1965 to June 1973.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum observed, 29°C, June 27, July 23, 1952, and Aug. 3, 1955; minimum, freezing point on many days during winter months most years.

01606800 BRUSHY RUN NEAR PETERSBURG, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 38°48'20", long 79°12'50" referenced to North American Datum of 1927, Pendleton County, WV, Hydrologic Unit 02070001, at culvert on State Route 4, 14.0 mi southwest of Petersburg, and at mile 3.2.

DRAINAGE AREA.--1.43 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1970 (annual maximum discharge), October 1970 to September 1977 (annual maxima). Water years 1965-70 published in OFR 80-560.

GAGE.--Crest-stage gage. Datum is arbitrary.

REVISED RECORDS.—OFR 2008-1087: Drainage area.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 203 ft³/s, Sept. 23, 1975, gage height, 8.00 ft.

01606900 SOUTH MILL CREEK NEAR MOZER, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 38°51'17", long 79°09'48" referenced to North American Datum of 1927, Grant County, WV, Hydrologic Unit 02070001.

DRAINAGE AREA.--10.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2003 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,279.56 ft above NAVD 88 (VERTCON conversion of 1,279.97 ft above NGVD 29).

REMARKS.--Dam name: North and South Mill Creek No. 7

Surface area: 48 acres

Normal Pool = 8.85 ft (Normal Storage = 840 acre-ft)

Top of Riser = 11.0 ft

Emergency Spillway = 31.8 ft

Top of Dam = 45.2 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 13.58 ft, Apr. 15, 2007; minimum gage height, 8.83 ft, Aug. 2-5, 13-16, 19, Sept. 1-10, Oct. 1, 2007.

01607000 BIG SPRING FORK AT MASONVILLE, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 38°55'15", long 79°05'10" referenced to North American Datum of 1927, Grant County, WV, Hydrologic Unit 02070001, on right bank of Spring Run, at State fish hatchery, 6 miles southeast of Petersburg.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1945 to December 1958, February 1968 to September 1969 (daily discharge).

GAGE.--Water-stage recorder and concrete control. Datum of gage is approximately 1,179.54 ft above NAVD 88 (VERTCON conversion of 1,180 ft above NGVD 29, from topographic map). Prior to May 14, 1951, water-stage recorder at site 0.5 mile upstream at different datum. May 14, 1951, to Feb. 5, 1952, nonrecording gage at site 200 ft downstream at different datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Big Spring, which emerges several places 0.5 mile upstream from gage, is the source of entire flow, except during wet weather when surface drainage from about 1 mi² enters the stream upstream from the gage. Flow from surface is included in the records but is relatively small except during heavy rains.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--14 years, 13.0 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1946 - 1969		
Highest daily mean	330	Jun 18, 1949
Lowest daily mean	4.9	Oct 7, 1947
Annual seven-day minimum	5.0	Dec 19, 1958
Maximum peak flow	^a 600	Jun 18, 1949 (2.68 ft stage)
Instantaneous low flow	4.9	Oct 6-8, 1947
10 percent duration	23	
50 percent duration	9.5	
90 percent duration	6.8	

^a Site and datum then in use, from rating curve extended above 100 ft³/s.

01607300 BRUSHY FORK NEAR SUGAR GROVE, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 38°27'59", long 79°19'08" referenced to North American Datum of 1983, Pendleton County, WV, Hydrologic Unit 02070001.

DRAINAGE AREA.--15.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 2004 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,951.71 ft above NAVD 88 (VERTCON conversion of 1,952.00 ft above NGVD 29).

REMARKS.--Dam name: South Fork No. 19

Surface area: 26 acres

Normal Pool = 46.50 ft (Normal Storage = 271 acre-ft)

Top of Riser = 50.00 ft

Emergency Spillway = 83.1 ft

Top of Dam = 101.00 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 64.33 ft, Sept. 29, 2004; minimum gage height, 43.74 ft, Oct. 23, 24, 2007.

01607500 SOUTH FORK SOUTH BRANCH POTOMAC RIVER AT BRANDYWINE, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 38°37'53", long 79°14'38" referenced to North American Datum of 1927, Pendleton County, WV, Hydrologic Unit 02070001, on left bank 50 ft upstream from bridge on U.S. Highway 33, 0.1 mi upstream from Hawes Run, 0.4 mi north of Brandywine, 0.9 mi downstream from Broad Run, and at mile 44.9.

DRAINAGE AREA.--103 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1943 to September 1972 (daily discharge and peaks), October 1972 to September 2008 (daily discharge and annual maxima).

REVISED RECORDS.--WSP 1141: 1945(M), 1947(M). WDR WV-84-1: 1983. WDR WV-88-1: 1987. WDR WV-97-1: Drainage area, 1967(M), 1971-75(M), 1977-78(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,557.96 ft above NAVD 88 (1,558.32 ft above NGVD 29). Prior to Sept. 24, 1956, nonrecording gage at highway bridge 50 ft downstream at same datum. Prior to Oct. 1, 1965, published as South Fork of South Branch Potomac River at Brandywine.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Beginning in 1973, the flow from 41.3 mi² upstream from station has been partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 8,882 acre-ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharges for the November 1877 and 1896 peaks were about 40,000 ft³/s and 45,000 ft³/s, respectively; based on notes from local residents comparing these peaks to the 1949 peak.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1943 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	57.4	90.9	109	128	150	231	169	130	75.7	33.3	37.0	54.9
Max	340	965	473	519	681	588	583	324	570	220	301	568
(WY)	(1973)	(1986)	(1974)	(1996)	(1998)	(1994)	(1987)	(1960)	(1949)	(1949)	(1984)	(1996)
Min	4.57	5.09	6.45	7.70	11.0	30.4	34.0	18.3	7.68	3.90	3.39	2.88
(WY)	(1964)	(1999)	(1956)	(1981)	(2002)	(1988)	(1981)	(1977)	(1977)	(1999)	(1957)	(1968)

DISCHARGE SUMMARY STATISTICS

Water Years 1943 - 2008

Annual mean	105
Highest annual mean	215 2003
Lowest annual mean	38.6 1981
Highest daily mean	7,500 Nov 4, 1985
Lowest daily mean	0.20 Aug 13, 1999
Annual seven-day minimum	0.42 Aug 4, 1999
Maximum peak flow	^a 41,200 Jun 17, 1949
Maximum peak stage (ft)	^b 18.42 Nov 4, 1985
Instantaneous low flow	0.17 Aug 13, 1999
Annual runoff (cfsm)	1.02
Annual runoff (inches)	13.90
10 percent duration	227
50 percent duration	40
90 percent duration	7.4

Climatic Years 1930 - 2002 (Wiley, 2006)

1 day 10 yr low flow	2.36
7 day 10 yr low flow	2.64
30 day 5 yr low flow	4.53
1 day 3 yr bio-based low flow	1.98
4 day 3 yr bio-based low flow	2.08
10 percent duration	221
50 percent duration	40.7
90 percent duration	7.4
EPA harmonic mean	19.1

^a From rating curve extended above 5,300 ft³/s on basis of slope-area measurement of peak flow, highest since 1878.

^b From floodmarks.

01607510 HEAVENER RUN NEAR BRANDYWINE, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 38°37'59", long 79°13'49" referenced to North American Datum of 1927, Pendleton County, WV, Hydrologic Unit 02070001, on right upstream end of 6 ft corrugated culvert on US Route 33, 1.1 mi northeast of Brandywine.

DRAINAGE AREA.--1.04 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1998 to September 2007 (annual maxima).

GAGE.--Crest-stage gage. Datum of gage is approximately 1,549.62 ft above NAVD 88 (VERTCON conversion of 1,550 ft above NGVD 29, from topographic map).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90 ft³/s, Feb. 23, 2003, gage height, 9.12 ft.

01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 39°00'44", long 78°57'23" referenced to North American Datum of 1927, Hardy County, WV, Hydrologic Unit 02070001, on right bank 0.2 mi downstream from Stony Creek, 3.5 mi south of Moorefield, and at mile 5.3.

DRAINAGE AREA.--277 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1928 to September 1935, and August 1938 to September 1972 (daily discharge and peaks), October 1972 to September 2008 (daily discharge and annual maxima).

REVISED RECORDS.--WSP 1141: 1933(M), 1940, 1942-43, 1945, 1948(M). WSP 1302: 1931(M), 1935(M). WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 861.02 ft above NAVD 88 (VERTCON conversion of 861.51 ft above NGVD 29, U.S. Army Corps of Engineers benchmark). Prior to Mar. 11, 1940, nonrecording gage at Harness Ford Bridge 2.0 mi upstream at datum about 31 ft higher. Prior to Oct. 1, 1965, published as South Fork of South Branch Potomac River near Moorefield.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Beginning in 1973, the flow from 92.7 mi² upstream from station has been partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,870 acre-ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1924 reached a stage of 13.5 ft, from floodmarks, at site and datum then in use, discharge, about 28,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1928 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	125	185	212	263	329	492	416	329	172	85.4	102	107
Max	776	2,951	879	1,267	1,591	1,327	1,787	946	1,071	510	801	1,340
(WY)	(1977)	(1986)	(1974)	(1996)	(1998)	(1993)	(1987)	(1988)	(1949)	(1949)	(1955)	(1996)
Min	12.8	14.0	17.4	21.3	25.2	72.2	91.7	51.2	28.1	9.48	10.4	10.2
(WY)	(1992)	(1999)	(1966)	(1981)	(1934)	(1981)	(1981)	(1930)	(1977)	(1999)	(1965)	(1968)

DISCHARGE SUMMARY STATISTICS		
Water Years 1928 - 2008		
Annual mean	234	
Highest annual mean	526	2003
Lowest annual mean	85.9	1934
Highest daily mean	28,000	Nov 5, 1985
Lowest daily mean	4.4	Sep 10, 1966
Annual seven-day minimum	5.3	Sep 5, 1966
Maximum peak flow	^a 110,000	Nov 5, 1985
	(^b 19.99 ft stage)	
Instantaneous low flow	3.1	Aug 13, 1999
Annual runoff (cfsm)	0.845	
Annual runoff (inches)	11.48	
10 percent duration	520	
50 percent duration	98	
90 percent duration	21	
Climatic Years 1930 - 2002 (Wiley, 2006)		
1 day 10 yr low flow	8.29	
7 day 10 yr low flow	9.09	
30 day 5 yr low flow	14.1	
1 day 3 yr bio-based low flow	7.80	
4 day 3 yr bio-based low flow	8.44	
10 percent duration	513	
50 percent duration	97.9	
90 percent duration	22.0	
EPA harmonic mean	54.2	

^a From rating curve extended above 39,000 ft³/s on basis of slope-area measurement of peak flow, highest since 1878.

^b From floodmarks.

01608050 FORT RUN NEAR MOOREFIELD, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 39°03'56", long 78°54'49" referenced to North American Datum of 1927, Hardy County, WV, Hydrologic Unit 02070001, on right bank 16 ft upstream from bridge on Secondary Route 23/2, 3.0 mi east of Moorefield, and at mile 4.6.

DRAINAGE AREA.--4.85 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1969 to September 1977 (daily discharge and peaks).

REVISED RECORDS.--OFR 95-292: Drainage area.

GAGE.--Water-stage and rainfall recorder and bridge control. Concrete dam since June 10, 1970. Datum of gage is approximately 1,049.51 ft above NAVD 88 (VERTCON conversion of 1,050 ft above NGVD 29, from topographic map).

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS	
Water Years 1969 - 1977	
Annual mean	4.70
Highest daily mean	450 Jun 23, 1972
Lowest daily mean	^a 0.00 Jun 20, 1969
Annual seven-day minimum	0.00 Jun 20, 1969
Maximum peak flow	^b 888 Jun 23, 1972 (^c 8.49 ft stage)
Instantaneous low flow	0.00 (a)
10 percent duration	10
50 percent duration	1.3
90 percent duration	0.03

^a No flow at times most years.

^b From rating curve extended above 40 ft³/s on basis of slope-area measurement of peak flow.

^c From floodmarks.

01608070 SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 39°06'14", long 78°57'37" referenced to North American Datum of 1927, Hardy County, WV, Hydrologic Unit 02070001, on left bank, 125 ft upstream from concrete highway bridge on U.S. Route 220, 500 ft downstream from Fort Run, and 2.0 mi north of Moorefield.

DRAINAGE AREA.--1,216 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1993 to September 2002 (daily discharge and peaks), October 2002 to September 2006 (annual maximum gage height).

REVISED RECORDS.--WDR-US-2006: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 764.49 ft above NAVD 88 (VERTCON conversion of 765.00 ft above NGVD 29).

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1994 - 2002, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	279	700	924	1,931	2,245	2,959	1,766	1,956	787	530	694	871
Max	846	2,446	2,933	5,168	5,672	5,844	3,329	5,072	1,554	1,248	2,464	5,444
(WY)	(1997)	(1997)	(1997)	(1996)	(1998)	(1994)	(2002)	(1996)	(1996)	(1996)	(1996)	(1996)
Min	121	120	154	240	283	1,082	771	502	188	85.2	92.7	117
(WY)	(2002)	(2002)	(1999)	(2002)	(2002)	(1995)	(1995)	(1999)	(1999)	(1999)	(1999)	(1995)

DISCHARGE SUMMARY STATISTICS

	Water Years 1994 - 2002	
Annual mean	1,299	
Highest annual mean	2,428	1996
Lowest annual mean	560	1999
Highest daily mean	^e 64,600	Sep 7, 1996
Lowest daily mean	64	Aug 7, 13, 1999
Annual seven-day minimum	66	Aug 7, 1999
Maximum peak flow	^e 138,000	Sep 7, 1996 (25.04 ft stage)
Instantaneous low flow	63	Aug 13, 19, 1999
Annual runoff (cfs)	1.05	
Annual runoff (inches)	14.22	
10 percent duration	3,080	
50 percent duration	565	
90 percent duration	140	

^e Estimated from rating curve extended above 26,000 ft³/s on basis of drainage area comparison.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--May to November 2005.

INSTRUMENTATION.--Water-quality monitor May to November 2005.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 316 microsiemens, Oct. 7, 2005; minimum recorded, 149 microsiemens, Nov. 30, 2005.

pH: Maximum recorded, 9.0 units, Oct. 18, 19, Nov. 15, 2005; minimum recorded, 7.3 units, Sept. 26, 2005.

WATER TEMPERATURES: Maximum recorded, 29.8°C, Aug. 4, 2005; minimum recorded, 1.6°C, Nov. 26, 2005.

01608100 WILLIAMS HOLLOW NEAR MOOREFIELD, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 39°05'20", long 78°53'55" referenced to North American Datum of 1927, Hardy County, WV, Hydrologic Unit 02070001, at culvert on State Route 55, 4.0 mi northeast of Moorefield, and at mile 3.8.

DRAINAGE AREA.--0.24 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1971 (annual maximum discharge), October 1971 to September 1977 (annual maxima). Water years 1965-71 published in OFR 80-560.

GAGE.--Crest-stage gage. Datum is arbitrary.

REVISED RECORDS--OFR 2008-1087: Drainage area.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 75 ft³/s, June 22, 1972, gage height, 5.70 ft.

01608400 BUFFALO CREEK NEAR ROMNEY, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 39°22'18", long 78°43'51" referenced to North American Datum of 1927, Hampshire County, WV, Hydrologic Unit 02070001, on right bank 15 ft upstream from culvert on Secondary State Route 28/1, 2.5 mi northeast of Romney, and at mile 0.7.

DRAINAGE AREA.--4.33 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1969 to September 1977 (daily discharge and peaks).

REVISED RECORDS.--OFR 95-292: Drainage area.

GAGE.--Water-stage and rainfall recorders and culvert control. Concrete dam since Aug. 12, 1970. Datum of gage is approximately 679.42 ft above NAVD 88 (VERTCON conversion of 680 ft above NGVD 29, from topographic map).

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 29, 1969, reached a stage of 8.00 ft, from floodmarks, discharge, 550 ft³/s, from rating curve extended above 190 ft³/s on basis of computations of flow through culvert and road overflow.

DISCHARGE SUMMARY STATISTICS		
Water Years 1969 - 1977		
Annual mean	3.60	
Highest daily mean	232	Jun 23, 1972
Lowest daily mean	^a 0.00	Sep 4, 1969
Annual seven-day minimum	0.00	Sep 23, 1969
Maximum peak flow	^b 463	Oct 8, 1976 (7.43 ft stage)
Instantaneous low flow	0.0	(a)
10 percent duration	8.0	
50 percent duration	0.74	
90 percent duration	0.01	

^a No flow at times most years.

^b From rating curve extended above 190 ft³/s on basis of computations of flow through culvert and road overflow measurement at gage height 8.00 ft.

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV

Potomac Basin
South Branch Potomac Subbasin

LOCATION.--Lat 39°26'49", long 78°39'16" referenced to North American Datum of 1927, Hampshire County, WV, Hydrologic Unit 02070001, on left bank at highway bridge, 2.0 mi east of Springfield, and at mile 13.5.

DRAINAGE AREA.--1,461 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1894 to February 1896 (fragmentary), July 1899 to December 1901, August 1903 to June 1906, and August 1928 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 1552: 1903-06, 1929-30(M), 1932-33(M), 1935(M), 1937-40(M), 1942-43(M), 1945(M). WDR WV-97-1: Drainage area. WDR-US-2006: Drainage area. WDR-US-2008: 1901 (M)

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 561.41 ft above NAVD 88 (VERTCON conversion of 562.02 ft above NGVD 29). June 1894 to February 1896, nonrecording gage at Baltimore & Ohio Railroad bridge 11.2 mi upstream at different datum. July 1, 1899, to Dec. 31,

1901, nonrecording gage at bridge 10.0 mi upstream at different datum. Aug. 28, 1903, to June 30, 1906, nonrecording gage at present site at different datum. Aug. 8 to Sept. 24, 1928, nonrecording gage at present site and datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood in November 1877 reached a stage of about 34 ft, from floodmarks, at site and datum in use July 1, 1889, to Dec. 31, 1901, discharge, 140,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1899 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	615	894	1,252	1,618	2,018	3,019	2,413	1,850	1,039	532	533	509
Max	4,629	12,850	5,000	6,928	6,474	10,490	6,421	5,785	5,231	2,638	3,923	6,538
(WY)	(1977)	(1986)	(1973)	(1996)	(1998)	(1936)	(1987)	(1996)	(1949)	(1949)	(1955)	(1996)
Min	79.4	82.2	147	271	330	594	829	366	217	86.7	73.5	76.6
(WY)	(1931)	(1905)	(1966)	(1981)	(2002)	(2006)	(1976)	(1977)	(1999)	(1999)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1899 - 2008	
Annual mean	1,354
Highest annual mean	2,975 1996
Lowest annual mean	566 1969
Highest daily mean	145,000 Nov 5, 1985
Lowest daily mean	52 Sep 11, 12, 1966
Annual seven-day minimum	54 Sep 7, 1966
Maximum peak flow	^a 240,000 Nov 5, 1985 (^b 44.22 ft stage)
Instantaneous low flow	29 Jan 28, 1956 ^c
Annual runoff (cfsm)	0.927
Annual runoff (inches)	12.59
10 percent duration	3,050
50 percent duration	666
90 percent duration	154
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	69.4
7 day 10 yr low flow	73.5
30 day 5 yr low flow	102
1 day 3 yr bio-based low flow	61.0
4 day 3 yr bio-based low flow	64.7
10 percent duration	3,090
50 percent duration	654
90 percent duration	152
EPA harmonic mean	378

^a From rating curve extended above 145,000 ft³/s on basis of slope-area measurement of peak flow, highest since 1878.

^b From floodmarks.

^c Jan. 28, 1956 (result of freeze-up), July 30, 1966 (result of temporary dam).

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 2005 to September 2008.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 2005 to September 2008.

pH: October 2005 to September 2008.

WATER TEMPERATURE: October 2005 to September 2008.

DISSOLVED OXYGEN: October 2005 to September 2008.

TURBIDITY: December 2005 to September 2008.

INSTRUMENTATION.--Water-quality monitor October 2005 to September 2008.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 327 microsiemens, Oct. 29, 2005; minimum recorded, 112 microsiemens, Apr. 16, 2007.

pH: Maximum recorded, 9.8 units, Sept. 25, 2008; minimum recorded, 7.0 units, Feb. 22, 2007.

WATER TEMPERATURE: Maximum recorded, 31.8°C, Aug. 3, 2006; minimum recorded, -0.1°C, Dec. 11, 13, 19, 2005.

DISSOLVED OXYGEN: Maximum recorded, 17.4 mg/L, Nov. 6, 2006; minimum recorded, 5.2 mg/L, June 1, 2, 2006.

TURBIDITY: Maximum recorded, 1470 turbidity units, Mar. 26, 2007; minimum recorded, 0.0 turbidity units, many days 2007.

01609650 LITTLE CACAPON RIVER AT FRENCHBURG, WV

Potomac Basin
Cacapon-Town Subbasin

LOCATION.--Lat 39°18'55", long 78°39'27" referenced to North American Datum of 1927, Hampshire County, WV, Hydrologic Unit 02070003, on left upstream side of bridge, on County Route 50/9, 5 mi east of Romney.

DRAINAGE AREA.--28.9 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1998 to September 2008 (annual maxima).

GAGE.--Crest-stage gage. Datum of gage is approximately 989.46 ft above NAVD 88 (VERTCON conversion of 990 ft above NGVD 29, from topographic map).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,530 ft³/s, Sept. 9, 2004, gage height, 11.99 ft.

01609800 LITTLE CACAPON RIVER NEAR LEVELS, WV

Potomac Basin
Cacapon-Town Subbasin

LOCATION.--Lat 39°29'55", long 78°29'20" referenced to North American Datum of 1927, Hampshire County, WV, Hydrologic Unit 02070003, on left bank just downstream from bridge on Secondary State Route 2, 3.2 mi northeast of Levels, and at mile 1.8.

DRAINAGE AREA.--108 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1966 to September 1977 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is approximately 539.36 ft above NAVD 88 (VERTCON conversion of 540 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1967 - 1977		
Annual mean	89.8	
Highest daily mean	4,890	Jun 22, 1972
Lowest daily mean	0.01	Sep 1, 1968 ^b
Annual seven-day minimum	0.01	Sep 30, 1968
Maximum peak flow	^a 10,500	Jun 22, 1972 (12.97 ft stage)
10 percent duration	216	
50 percent duration	24	
90 percent duration	1.4	

^a From rating curve extended above 1,800 ft³/s on basis of slope-area measurement at gage height, 10.24 ft.

^b Also Sept. 2-5, Oct. 2-6, 8, 16-18, 1968.

01610195 PARKER HOLLOW RUN AT NEEDMORE, WV

Potomac Basin
Cacapon-Town Subbasin

LOCATION.--Lat 39°02'34", long 78°47'52" referenced to North American Datum of 1983, Hardy County, WV, Hydrologic Unit 02070003, 0.9 mile southwest of Needmore, and 2.9 miles west of Baker.

DRAINAGE AREA.--6.7 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 2006 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,538.02 ft above NAVD 88 (VERTCON conversion of 1,538.49 ft above NGVD 29, corrected).

REMARKS.--Dam Name: Lost River No. 10

Normal Pool = 48.71 ft

Top of Riser = 53.29 ft

Emergency Spillway = 70.31 ft

Top of Dam = 83.50 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 52.01 ft, Apr. 15, 2007; minimum, <33.65 ft, Apr. 1-7, 2006 (reservoir filling and below gage orifice elevation).

01610200 LOST RIVER AT MCCAULEY NEAR BAKER, WV

Potomac Basin
Cacapon-Town Subbasin

LOCATION.--Lat 39°03'18", long 78°43'31" referenced to North American Datum of 1927, Hardy County, WV, Hydrologic Unit 02070003, on left bank at McCauley, 1.4 mi upstream from Three Springs Run, and 1.7 mi east of Baker.

DRAINAGE AREA.--155 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1971 to January 1980 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-97-1: 1977-79(P).

GAGE.--Water-stage recorder. Datum of gage is 1,258.86 ft above NAVD 88 (VERTCON conversion of 1,259.34 ft above NGVD 29). Prior to Sept. 4, 1979, at site 350 ft downstream at same datum.

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1972 - 1980		
Annual mean	188	
Highest daily mean	12,000	Jun 23, 1972
Lowest daily mean	1.8	Jul 24, 1977
Annual seven-day minimum	2.3	Aug 7, 1977
Maximum peak flow	^a 14,600	Jun 23, 1972 (^b 11.58 ft stage)
Instantaneous low flow	1.8	July 23, 24, 1977
10 percent duration	400	
50 percent duration	66	
90 percent duration	10	

^a From rating curve extended above 1,000 ft³/s on basis of slope-area measurement of peak flow.

^b From floodmarks.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1974 to October 1976.

INSTRUMENTATION.--Continuous temperature recorder.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum, 29°C Aug. 26, 1976; minimum, 0.0°C on many days during winter periods.

01610300 CACAPON RIVER ABOVE WARDENSVILLE, WV

Potomac Basin
Cacapon-Town Subbasin

LOCATION.--Lat 39°04'44", long 78°37'11" referenced to North American Datum of 1927, Hardy County, WV, Hydrologic Unit 02070003, on right bank 0.8 mi upstream from Trout Run, and 1.2 mi west of Wardensville.

DRAINAGE AREA.--181 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1971 to September 1973 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 999.54 ft above NAVD 88 (VERTCON conversion of 1,000 ft above NGVD 29, from topographic map).

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1972 - 1973		
Highest daily mean	13,500	Jun 23, 1972
Lowest daily mean	25	Sep 19, 1972
Annual seven-day minimum	25	Sep 19, 1972
Maximum peak flow	16,200	Jun 23, 1972
	(sup>11.15 ft stage)	
Instantaneous low flow	24	Sep 19, 1972
10 percent duration	697	
50 percent duration	156	
90 percent duration	41	

^a From floodmark.

01610400 WAITES RUN NEAR WARDENSVILLE, WV

Potomac Basin
Cacapon-Town Subbasin

LOCATION.--Lat 39°02'33.8", long 78°35'54.0" referenced to North American Datum of 1983, Hardy County, WV, Hydrologic Unit 02070003, on left bank at downstream side of bridge on Waites Run Road, 2.6 mi south of Wardensville, 4.3 mi upstream from mouth, and 8.2 mi east of Baker.

DRAINAGE AREA.--12.6 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 2002 to September 2008 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is 1,239.60 ft above NAVD 88 (VERTCON conversion of 1,240.00 ft above NGVD 29).

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 2002 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	8.51	23.5	19.4	16.0	13.7	26.3	31.4	24.5	13.8	5.34	3.38	15.2
Max	13.9	46.9	36.5	26.7	22.6	55.8	45.6	36.4	44.1	8.50	9.21	48.3
(WY)	(2004)	(2007)	(2004)	(2003)	(2003)	(2003)	(2004)	(2008)	(2003)	(2005)	(2003)	(2003)
Min	2.34	1.95	5.40	5.25	3.79	5.92	11.6	7.14	3.05	1.62	1.91	1.27
(WY)	(2008)	(2008)	(2008)	(2008)	(2002)	(2006)	(2006)	(2007)	(2007)	(2007)	(2006)	(2007)

DISCHARGE SUMMARY STATISTICS

Water Years 2002 - 2008

Annual mean	17.2	
Highest annual mean	29.5	2003
Lowest annual mean	10.9	2008
Highest daily mean	679	Sep 19, 2003
Lowest daily mean	^e 0.78	Sep 14, 2002
Annual seven-day minimum	1.00	Sep 3, 2007
Maximum peak flow	^a 1,530	Nov 16, 2006 (6.17 ft stage)
Instantaneous low flow	0.80	Sep 7, 2007
Annual runoff (cfsm)	1.37	
Annual runoff (inches)	18.56	
10 percent duration	38	
50 percent duration	10	
90 percent duration	1.8	

^a From rating curve extended above 420 ft³/s.

^e Estimated.

01610500 CACAPON RIVER AT YELLOW SPRING, WV

Potomac Basin
Cacapon-Town Subbasin

LOCATION.--Lat 39°10'56", long 78°30'25" referenced to North American Datum of 1927, Hampshire County, WV, Hydrologic Unit 02070003, 2.5 mi downstream from Capon Springs Run and 9.0 mi northeast of Wardensville, and at mile 63.8.

DRAINAGE AREA.--306 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1939 to December 1951 (daily discharge and peaks).

GAGE.--Wire-weight gage. Datum of gage is 858.04 ft above NAVD 88 (VERTCON conversion of 858.51 ft above NGVD 29).

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 1936 reached a stage of 20.2 ft, discharge 28,000 ft³/s. Flood of Apr. 1937 reached a stage of 18 ft, discharge 20,000 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1940 - 1952		
Annual mean	245	
Highest daily mean	18,500	Oct 15, 1942
Lowest daily mean	19	Aug 21, 1944
Annual seven-day minimum	21	Aug 16, 1944
Maximum peak flow	36,700	Oct 15, 1942 (22.22 ft stage)
Instantaneous low flow	12	Jan 7, 1942
10 percent duration	562	
50 percent duration	119	
90 percent duration	33	
Climatic Years 1930 - 2002 (Wiley, 2006)		
1 day 10 yr low flow	19.8	
7 day 10 yr low flow	21.2	
30 day 5 yr low flow	25.6	
1 day 3 yr bio-based low flow	20.9	
4 day 3 yr bio-based low flow	21.0	
10 percent duration	572	
50 percent duration	123	
90 percent duration	33.3	
EPA harmonic mean	80.4	

01611500 CACAPON RIVER NEAR GREAT CACAPON, WV

Potomac Basin
Cacapon-Town Subbasin

LOCATION.--Lat 39°34'56", long 78°18'36" referenced to North American Datum of 1927, Morgan County, WV, Hydrologic Unit 02070003, on left bank at Rock Ford, 3.0 mi southwest of Great Cacapon, and at mile 6.1.

DRAINAGE AREA.--675 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1922 to September 1995, and October 1996 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 800: 1924(M). WSP 921: Drainage area. WSP 951: 1936-37. WSP 1552: 1925-26(M), 1928-1929(M), 1932. WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 456.78 ft above COE 12. Prior to Nov. 10, 1933, nonrecording gage at same site and datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. High end of rating not confirmed above 3,000 ft³/s since cableway removed in July 1992.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1889 reached a stage of about 24.7 ft, from floodmarks, discharge, 57,500 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1923 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	320	386	526	633	871	1,274	1,130	862	436	196	227	202
Max	2,976	2,577	2,121	1,751	3,234	5,708	2,976	3,565	3,525	936	2,791	1,698
(WY)	(1943)	(1986)	(1973)	(1998)	(1998)	(1936)	(1987)	(1924)	(1972)	(1972)	(1955)	(2003)
Min	44.8	51.1	56.5	69.6	89.1	194	242	157	72.5	53.8	39.8	39.4
(WY)	(1931)	(1966)	(1966)	(1956)	(1934)	(2006)	(1947)	(1969)	(1999)	(1999)	(1966)	(1932)

DISCHARGE SUMMARY STATISTICS

Water Years 1923 - 2008	
Annual mean	590
Highest annual mean	1,192 2003
Lowest annual mean	180 1969
Highest daily mean	67,900 Mar 18, 1936
Lowest daily mean	26 Sep 12, 1966
Annual seven-day minimum	28 Sep 7, 1966
Maximum peak flow	^a 87,600 Mar 18, 1936 (30.10 ft stage)
Instantaneous low flow	26 Sep 11-13, 1966
Annual runoff (cfsm)	0.874
Annual runoff (inches)	11.88
10 percent duration	1,350
50 percent duration	247
90 percent duration	68
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	37.2
7 day 10 yr low flow	39.2
30 day 5 yr low flow	50.3
1 day 3 yr bio-based low flow	36.8
4 day 3 yr bio-based low flow	38.5
10 percent duration	1,380
50 percent duration	249
90 percent duration	67.8
EPA harmonic mean	159

^a From rating curve extended above 52,000 ft³/s, highest since 1889.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--From June 2005 to September 2008.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 2007 to September 2008.

pH: April 2007 to September 2008.

WATER TEMPERATURE: April 2007 to September 2008.

DISSOLVED OXYGEN: April 2007 to September 2008.

INSTRUMENTATION.--Water-quality monitor April to September 2008.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 213 microsiemens, Nov. 8, 9, 10, 11, 2007; minimum recorded, 73 microsiemens, May 13, 2008.
pH: Maximum recorded, 9.4 units, Aug. 26, 2008; minimum recorded, 6.8 units, Apr. 21, 2008.
WATER TEMPERATURE: Maximum recorded, 30.8°C, Aug. 4, 2007; minimum recorded, 0.0°C, Jan. 3, 2008.
DISSOLVED OXYGEN: Maximum recorded, 14.9 mg/L, Jan. 21, 2008; minimum recorded, 3.9 mg/L, June 3, 2007.

01613020 UNNAMED TRIB TO WARM SPRINGS RUN NEAR BERKELEY SPRINGS, WV

Potomac Basin
Conococheague-Opequon Subbasin

LOCATION.--Lat 39°36'21", long 78°13'45" referenced to North American Datum of 1983, Morgan County, WV, Hydrologic Unit 02070004.

DRAINAGE AREA.--0.45 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 2004 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 688.40 ft above NAVD 88 (VERTCON conversion of 689.05 ft above NGVD 29).

REMARKS.--Dam name: Warm Springs No. 3

Surface area: 1 acre

Normal Pool = 43.45 ft (Normal Storage = 6 acre-ft)

Top of Riser = 61.50 ft

Emergency Spillway = 63.55 ft

Top of Dam = 70.45 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 53.52 ft, Apr. 21, 2008; minimum gage height, 43.46 ft, Oct. 18, 2007.

01614000 BACK CREEK NEAR JONES SPRINGS, WV

Potomac Basin
Conococheague-Opequon Subbasin

LOCATION.--Lat 39°30'43", long 78°02'15" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004, on left bank at downstream side of highway bridge, 1.3 mi southeast of Tomahawk, 3.5 mi northeast of village of Jones Springs, 9.0 mi upstream from Tilhance Creek, and at mile 11.6.

DRAINAGE AREA.--235 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1928 to September 1931 (daily discharge and peaks, published as Back Creek near Hedgesville), September 1938 to September 1975 (daily discharge and peaks), October 1992 to September 1998 (annual maxima), June 2004 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 851: 1930 (M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 415.85 ft above NAVD 88 (VERTCON conversion of 416.42 ft above NGVD 29, U.S. Army Corps of Engineers bench mark). Prior to Oct. 17, 1956, nonrecording gage. Prior to Oct. 1, 1931, at site about 5 mi downstream at different datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 17, 1936, reached a stage of 25 ft, from floodmarks, present datum; discharge, 22,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1929 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	95.1	130	209	234	332	442	355	231	149	62.2	58.1	79.1
Max	1,218	588	817	793	849	1,003	835	580	1,100	371	657	753
(WY)	(1943)	(1971)	(1973)	(1968)	(1961)	(1963)	(1952)	(1972)	(1972)	(1949)	(1955)	(2004)
Min	5.20	10.6	10.0	21.3	33.9	53.9	68.8	38.8	13.0	6.27	3.22	5.25
(WY)	(1964)	(1931)	(1966)	(1966)	(1931)	(2006)	(1947)	(1930)	(1969)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS	
Water Years 1929 - 2008	
Annual mean	196
Highest annual mean	382 1972
Lowest annual mean	55.7 1969
Highest daily mean	14,800 Oct 15, 1942
Lowest daily mean	1.1 Aug 6, 7, 1930
Annual seven-day minimum	1.6 Aug 5, 1930
Maximum peak flow	^a 22,400 Oct 15, 1942 (^b 25.17 ft stage)
Instantaneous low flow	0.90 Aug 6, 1930 ^c
Annual runoff (cfsm)	0.834
Annual runoff (inches)	11.34
10 percent duration	456
50 percent duration	69
90 percent duration	11
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	4.07
7 day 10 yr low flow	4.73
30 day 5 yr low flow	8.25
1 day 3 yr bio-based low flow	3.88
4 day 3 yr bio-based low flow	4.55
10 percent duration	494
50 percent duration	83.8
90 percent duration	14.8
EPA harmonic mean	37.6

^a From rating curve extended above 6,200 ft³/s on basis of current-meter measurement of 14,500 ft³/s made at Hedgesville.

^b From floodmarks.

^c Minimum observed.

01616425 HOPEWELL RUN AT LEETOWN, WV

Potomac Basin
Conococheague-Opequon Subbasin

LOCATION.--Lat 39°21'16.7", long 77°56'01.0" referenced to North American Datum of 1983, Jefferson County, WV, Hydrologic Unit 02070004, at Leetown.

DRAINAGE AREA.--8.95 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 2003 to March 2006 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 449.46 ft above NAVD 88 (VERTCON conversion of 450.0 ft above NGVD 29, from topographic map).

REMARKS.-- Water-discharge records in ft³/s, stage readings in ft. Flow affected at times by fish hatchery operations.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 2003 - 2006, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	7.42	7.85	12.3	9.95	11.7	11.1	20.2	15.0	15.1	9.15	6.82	7.84
Max	9.93	11.6	20.1	12.8	19.7	14.6	20.9	19.3	26.1	14.0	8.46	10.8
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)
Min	3.28	3.61	4.53	6.72	6.38	4.97	19.5	9.84	6.01	4.55	3.87	3.20
(WY)	(2006)	(2006)	(2006)	(2006)	(2006)	(2006)	(2003)	(2005)	(2005)	(2005)	(2005)	(2005)

DISCHARGE SUMMARY STATISTICS

Water Years 2003 - 2006

Annual mean	11.5
Highest annual mean	13.7 2004
Lowest annual mean	9.18 2005
Highest daily mean	73 Dec 11, 2003
Lowest daily mean	1.8 Sep 28, 2005
Annual seven-day minimum	2.2 Oct 15, 2005
Annual runoff (cfsm)	1.28
Annual runoff (inches)	17.40
10 percent duration	19
50 percent duration	9.7
90 percent duration	4.3

01616500 OPEQUON CREEK NEAR MARTINSBURG, WV

Potomac Basin
Conococheague-Opequon Subbasin

LOCATION.--Lat 39°25'25", long 77°56'20" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004, on right bank 300 ft upstream from Evans Run, 2.3 mi upstream from Tuscarora Creek, 3.0 mi southeast of Martinsburg, and at mile 11.6.

DRAINAGE AREA.--273 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1905 to June 1906 (monthly mean discharge published in WSP 1302, and annual maximum published in WSP 1672), July 1947 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 1702: 1959. WDR WV-97-1: Drainage area, 1936(M), 1967(M), 1968(P), 1969(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 354.33 ft above NAVD 88 (VERTCON conversion of 354.89 ft above NGVD 29). Prior to July 1906, nonrecording gage at approximately the same site at different datum. July 23, 1947 to July 22, 1948, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Some diurnal fluctuation at low flow caused by upstream mills in Virginia and since July 18, 1988, by wastewater treatment plant, 1,000 ft upstream from Opequon Creek near Berryville, VA (01615000); drainage area 58.2 mi².

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of about 17.5 ft, from information by local residents, estimated discharge, 19,100 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1947 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	151	183	248	281	340	450	382	283	221	143	135	141
Max	788	609	821	1,337	1,269	1,461	1,199	1,091	1,190	456	772	970
(WY)	(1977)	(1997)	(1973)	(1996)	(1998)	(1993)	(1984)	(1988)	(1972)	(1972)	(1996)	(1996)
Min	30.5	35.1	33.7	39.6	49.9	97.2	97.8	86.0	62.3	49.4	36.6	35.2
(WY)	(1948)	(1966)	(1966)	(1966)	(2002)	(2002)	(1954)	(1969)	(1999)	(1966)	(1966)	(1947)

DISCHARGE SUMMARY STATISTICS

Water Years 1947 - 2008	
Annual mean	246
Highest annual mean	581 1996
Lowest annual mean	85.7 1954
Highest daily mean	^c 15,000 Jan 20, 1996
Lowest daily mean	26 Oct 25, 1947
Annual seven-day minimum	27 Sep 7, 1966
Maximum peak flow	^a 23,400 Jan 20, 1996 (18.76 ft stage)
Instantaneous low flow	25 Oct 25, 1947
Annual runoff (cfsm)	0.902
Annual runoff (inches)	12.25
10 percent duration	484
50 percent duration	143
90 percent duration	59
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	33.5
7 day 10 yr low flow	35.8
30 day 5 yr low flow	46.0
1 day 3 yr bio-based low flow	32.0
4 day 3 yr bio-based low flow	33.9
10 percent duration	468
50 percent duration	140
90 percent duration	57.5
EPA harmonic mean	115

^c Estimated.

^a From rating curve extended above 7,100 ft³/s.

01617000 TUSCARORA CREEK ABOVE MARTINSBURG, WV

Potomac Basin
Conococheague-Opequon Subbasin

LOCATION.--Lat 39°28'10", long 77°58'18" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004, on left upstream wingwall of Secondary State Route 10 bridge over Tuscarora Creek, 0.9 miles northwest of Martinsburg, and at mile 3.7.

DRAINAGE AREA.--11.3 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1948 to September 1963, October 1967 to September 1977, and April 2006 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 1202: 1949-50(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is approximately 449.43 ft above NAVD 88 (VERTCON conversion of 450 ft above NDVD 29, from topographic map). Prior to Oct. 1, 1977, at site 20 ft upstream at datum 445.17 ft above NAVD 88 (445.74 ft above NGVD 29). Jan. 5, 1949, to Sept. 30, 1963, water-stage recorder at site 120 ft downstream at datum 450.17 ft above NAVD 88 (450.74 ft above NGVD 29), and prior to Jan. 5, 1949, nonrecording gage at site and datum 120 ft downstream.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1949 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6.17	6.93	10.2	11.4	14.6	19.2	19.2	14.0	11.0	7.50	5.69	5.59
Max	27.6	17.6	33.7	32.3	32.6	33.7	33.9	33.3	50.0	27.1	15.4	31.1
(WY)	(1977)	(1976)	(1973)	(1949)	(1972)	(1975)	(1961)	(1972)	(1972)	(1972)	(1972)	(1975)
Min	1.38	1.19	1.42	1.72	2.45	3.17	3.23	2.25	1.15	0.88	1.57	0.98
(WY)	(1970)	(1960)	(1959)	(1956)	(1959)	(1969)	(1969)	(1954)	(1954)	(1954)	(1954)	(1954)

DISCHARGE SUMMARY STATISTICS

Water Years 1949 - 2008

Annual mean	11.0	
Highest annual mean	24.0	1972
Lowest annual mean	2.49	1969
Highest daily mean	317	Jun 23, 1972
Lowest daily mean	0.30	Aug 18, 1954
Annual seven-day minimum	0.67	Jun 26, 1954
Maximum peak flow	610	Jun 27, 1975 (11.92 ft stage)
Instantaneous low flow	0.20	May 27, 1954
Annual runoff (cfsm)	0.974	
Annual runoff (inches)	13.23	
10 percent duration	24	
50 percent duration	7.1	
90 percent duration	2.2	

01636500 SHENANDOAH RIVER AT MILLVILLE, WV

Potomac Basin
Shenandoah Subbasin

LOCATION.--Lat 39°16'55", long 77°47'22" referenced to North American Datum of 1927, Jefferson County, WV, Hydrologic Unit 02070007, on left bank 0.4 mi downstream from Cattail Run, 1.0 mi upstream from Millville, 5.0 mi upstream from Harpers Ferry, and at mile 4.7.

DRAINAGE AREA.--3,041 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1895 to March 1909 (monthly discharge published in WSP 1302 and annual maxima), August 1928 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 951: 1936(M). WSP 1432: 1895-99, 1901-02, 1905, 1907-08, 1932(M), 1935(M). WDR WV-97-1: Drainage area. WDR-US-2006: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 293.00 ft above COE 12. Apr. 15, 1895 to Mar. 31, 1909, nonrecording gage at site 0.8 mi downstream at datum 0.32 ft higher.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Some regulation by upstream hydroelectric plants, including that of Potomac Light and Power Company, 0.5 mi upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1870 reached a stage of about 26.4 ft (about the same as the flood of Mar. 18, 1936, at current site and datum), discharge, about 151,000 ft³/s. Flood of May 13, 1924, reached a stage of 21.10 ft (at site and datum in use Apr. 15, 1895 to Mar. 31, 1903), discharge, 119,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1895 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,938	1,944	2,561	3,201	3,853	4,987	4,378	3,341	2,414	1,456	1,582	1,573
Max	16,250	13,350	8,164	13,470	18,100	17,540	12,840	8,701	10,380	4,809	10,390	14,780
(WY)	(1943)	(1986)	(1973)	(1996)	(1998)	(1936)	(1901)	(1901)	(1972)	(1972)	(1955)	(1996)
Min	343	388	410	475	471	929	992	1,001	643	402	388	411
(WY)	(1931)	(1932)	(1966)	(2002)	(2002)	(1931)	(1981)	(1969)	(1999)	(1966)	(1930)	(1963)

DISCHARGE SUMMARY STATISTICS		
Water Years 1895 - 2008		
Annual mean	2,763	
Highest annual mean	5,618	1996
Lowest annual mean	927	2002
Highest daily mean	192,000	Oct 16, 1942
Lowest daily mean	194	Jul 24, 1930
Annual seven-day minimum	240	Sep 7, 1966
Maximum peak flow	^a 230,000	Oct 16, 1942
	^b 32.40 ft stage)	
Instantaneous low flow	59	Oct 4, 1930
Annual runoff (cfsm)	0.909	
Annual runoff (inches)	12.34	
10 percent duration	5,610	
50 percent duration	1,630	
90 percent duration	610	
Climatic Years 1930 - 2002 (Wiley, 2006)		
1 day 10 yr low flow	303	
7 day 10 yr low flow	357	
30 day 5 yr low flow	466	
1 day 3 yr bio-based low flow	304	
4 day 3 yr bio-based low flow	343	
10 percent duration	5,480	
50 percent duration	1,590	
90 percent duration	585	
EPA harmonic mean	1,230	

^a Highest since 1870.

^b From floodmarks.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1983.

WATER TEMPERATURE: October 1980 to September 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 778 microsiemens, Dec. 29, 1980; minimum, 212 microsiemens, Jan. 17, 1982.

WATER TEMPERATURE: Maximum, 30.0°C, July 20, 21, 1981; minimum, 0.0°C on many days during winter periods.

03049950 BACK FORK ABOVE HUTTONSVILLE, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 38°39'55", long 79°55'40" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, at culvert on U.S. Highway 250, 0.8 mi upstream from mouth and 4.2 mi southeast of Huttonsville.

DRAINAGE AREA.--1.17 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1963 to September 1966 (annual maximum discharge), September 1966 to October 1968 (annual maxima), October 1968 to September 1969 (annual maximum discharge), October 1969 to September 1972 (annual maxima). Water years 1964-66 and 1969 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65 ft³/s, Apr. 23, 1970, gage height, 3.95 ft.

03049970 RIFFLE CREEK NEAR HUTTONSVILLE, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 38°40'52", long 79°58'31" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, 55 ft upstream from bridge on secondary road, 0.1 mi off U.S. Highway 250, 2.0 mi south of Huttonsville, and at mile 1.4.

DRAINAGE AREA.--10.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1963 to September 1967 (annual maximum discharge), September 1967 to October 1968 (annual maxima), October 1968 to September 1969 (annual maximum discharge), October 1969 to September 1972 (annual maxima). Water years 1964-67 and 1969 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 770 ft³/s, Apr. 23, 1970, gage height, 5.18 ft.

03050000 TYGART VALLEY RIVER NEAR DAILEY, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 38°48'33", long 79°52'55" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, on right bank 50 ft downstream from highway bridge, 1,000 ft upstream from Stalnaker Run, 1.0 mi northeast of Dailey, 2.5 mi south of Beverly, and at mile 98.4.

DRAINAGE AREA.--185 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1915 to September 1975 (daily discharge and peaks), October 1975 to September 1976 (daily mean gage height and annual maxima), July 1988 to September 2008 (daily discharge and peaks). Prior to October 1960, published as Tygart River near Dailey.

REVISED RECORDS.--WSP 873: 1932(M), WSP 1053: 1918(M), 1928(M), 1932, 1934-38. WSP 1305: 1924(M). WDR WV-97-1: Drainage area, 1976(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,940.56 ft above NAVD 88 (1,941.07 ft above NGVD 29). Prior to Sept. 27, 1928, nonrecording gage a few feet upstream at same datum. Sept. 27, 1928, to Dec. 16, 1941, nonrecording gage at site 50 ft upstream at same datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 5, 1985, reached a stage of 16.6 ft, from floodmarks, discharge, about 22,000 ft³/s, highest since 1888.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1915 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	123	249	448	549	591	717	530	456	239	165	152	88.9
Max	664	904	1,269	1,092	1,270	1,780	1,145	1,576	1,066	764	962	653
(WY)	(1938)	(2004)	(1973)	(1996)	(1994)	(1963)	(2002)	(1996)	(1928)	(1996)	(1942)	(2003)
Min	0.00	0.00	60.2	73.3	139	233	155	65.7	13.2	6.72	0.50	0.19
(WY)	(1931)	(1931)	(1966)	(1940)	(1941)	(2006)	(1921)	(1930)	(1991)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1915 - 2008	
Annual mean	359
Highest annual mean	611 1996
Lowest annual mean	182 1941
Highest daily mean	11,700 May 17, 1996
Lowest daily mean	0.00 Sep 12, 1930 ^a
Annual seven-day minimum	0.00 Sep 12, 1930
Maximum peak flow	19,900 May 17, 1996
Maximum peak stage (ft)	^b 17.20 Feb 4, 1932
Instantaneous low flow	0.00 Sep 12, 1930 ^a
Annual runoff (cfsm)	1.94
Annual runoff (inches)	26.34
10 percent duration	854
50 percent duration	167
90 percent duration	18
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.83
7 day 10 yr low flow	1.07
30 day 5 yr low flow	5.08
1 day 3 yr bio-based low flow	0.51
4 day 3 yr bio-based low flow	0.81
10 percent duration	818
50 percent duration	159
90 percent duration	17.3
EPA harmonic mean	21.5

^a Also Sept. 13 to Nov. 30, 1930, Sept. 29 to Nov. 5, 1953.

^b From floodmarks.

03050400 TYGART VALLEY RIVER AT ELKINS, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 38°55'00", long 79°50'43" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, at city water plant, at Elkins, 2.5 mi upstream from station 03050500 Tygart Valley River near Elkins.

DRAINAGE AREA.--268 mi².

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: January 1947 to September 1992.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 33.0°C, July 22, 1952; minimum daily, 0.0°C on many days during winter months most years.

03050500 TYGART VALLEY RIVER NEAR ELKINS, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 38°55'25", long 79°52'45" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, on left bank 1.4 mi upstream from the mouth of Leading Creek and 1.5 mi west of Elkins, and at mile 79.5.

DRAINAGE AREA.--271 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1944 to September 2004 (daily discharge and peaks), October 2004 to September 2008 (annual maximum gage height). Prior to October 1960, published as Tygart River near Elkins.

REVISED RECORDS.--WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,894.50 ft above NAVD 88 (1,895.05 ft above NGVD 29). Prior to Nov. 16, 1944, nonrecording gage, and Nov. 16, 1944 to Sept. 30, 1951, water-stage recorder at site 200 ft upstream at same datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1945 - 2004, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	185	415	663	764	887	1,033	783	631	349	250	215	146
Max	954	2,184	1,787	1,504	1,783	2,579	1,539	2,371	1,314	1,021	1,166	861
(WY)	(1980)	(1986)	(1973)	(1952)	(1994)	(1963)	(2002)	(1996)	(1974)	(1996)	(1996)	(2003)
Min	2.82	1.93	75.7	174	145	484	264	110	28.8	14.9	6.01	2.17
(WY)	(1954)	(1954)	(1966)	(1977)	(1978)	(1957)	(1955)	(1991)	(1965)	(1993)	(1965)	(1995)

DISCHARGE SUMMARY STATISTICS

Water Years 1945 - 2004	
Annual mean	525
Highest annual mean	870 1996
Lowest annual mean	312 1966
Highest daily mean	16,000 Nov 5, 1985
Lowest daily mean	^c 0.10 Sep 20-29, 1959
Annual seven-day minimum	0.10 Sep 20, 1959
Maximum peak flow	^a 23,500 Nov 5, 1985 (^b 22.81 ft stage)
Instantaneous low flow	^c 0.10 Sep 20-29, 1959
Annual runoff (cfsm)	1.94
Annual runoff (inches)	26.33
10 percent duration	1,230
50 percent duration	249
90 percent duration	26
Climatic Years 1930 - 2002 (Wiley, 2006)	

1 day 10 yr low flow	0.85
7 day 10 yr low flow	1.75
30 day 5 yr low flow	8.31
1 day 3 yr bio-based low flow	1.08
4 day 3 yr bio-based low flow	1.38
10 percent duration	1,270
50 percent duration	247
90 percent duration	26.1
EPA harmonic mean	36.5

^a From rating curve extended above 13,800 ft³/s, on basis of slope-area measurement of peak flow, highest since 1888.

^b From floodmarks.

^c Estimated.

03050650 UNNAMED RUN AT GILMAN, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 38°58'35", long 79°50'16" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, on left upstream end of culvert on US Highway 219, 0.3 mi northeast of Gilman and 3.7 mi north of Elkins.

DRAINAGE AREA.--0.38 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1963 to September 1977, October 1998 to September 2006 (annual maxima). Water year 1973 published in OFR 80-560.

GAGE.--Crest-stage gage. Datum of gage is approximately 1939.44 ft above NAVD 88 (VERTCON conversion of 1,940 ft above NGVD 29, from topographic map).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 310 ft³/s, June 20, 1964, gage height, 10.90 ft.

REVISED RECORDS--OFR 2008-1087: Drainage area.

03050800 ROARING CREEK AT NORTON, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 38°56'05", long 79°57'00" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, on right bank 10 ft downstream from bridge on secondary State Route 21/1 and 0.7 mi east of Norton.

DRAINAGE AREA.--29.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1964 to September 1969 (daily discharge and peaks), October 1969 to September 1971 (annual maximum discharge, published in OFR 80-560).

GAGE.--Water-stage recorder. Datum of gage is approximately 1879.46 ft above NAVD 88 (VERTCON conversion of 1,880 ft above NGVD 29, from topographic map).

DISCHARGE SUMMARY STATISTICS		
Water Years 1965 - 1969		
Highest daily mean	1,160	Mar 7, 1967
Lowest daily mean	0.10	Sep 27, 1964 ^a
Annual seven-day minimum	0.11	Sep 4, 1965
Maximum peak flow	^b 1,750	Mar 7, 1967 (8.64 ft stage)
10 percent duration	129	
50 percent duration	25	
90 percent duration	1.9	

^a Also Sept. 5-10, 1965.

^b From rating curve extended above 600 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: February 1965 to September 1967.

SEDIMENT RECORDS: February 1965 to September 1967.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 79°F, July 10, Aug. 18, Sept. 18, 1965; minimum, freezing point on several days during March, November, and December 1965, and January 1966.

SEDIMENT CONCENTRATION: Maximum daily, 1,240 ppm, Sept. 28, 1967; minimum daily, 1 ppm on many days.

SEDIMENT LOAD: Maximum daily, 1,100 tons, Mar. 6, 7, 1967; minimum daily, less than 0.05 ton on many days.

03050900 GRASSY RUN AT NORTON, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 38°56'10", long 79°57'40" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, 200 ft upstream from bridge on secondary State Route 5/5, and 300 ft upstream from mouth.

DRAINAGE AREA.--2.86 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1964 to September 1969 (daily discharge and peaks), October 1969 to September 1971 (annual maximum discharge, published in OFR 80-560).

GAGE.--Water-stage recorder. Datum of gage is approximately 1,864.46 ft above NAVD 88 (VERTCON conversion of 1,865 ft above NGVD 29, from topographic map).

DISCHARGE SUMMARY STATISTICS		
Water Years 1965 - 1969		
Highest daily mean	180	Mar 7, 1967
Lowest daily mean	0.70	Sep 10, 1965
Annual seven-day minimum	0.80	Oct 31, 1965
Maximum peak flow	^a 375	Mar 7, 1967 (2.18 ft stage)
Instantaneous low flow	0.40	Sep 8, 1965 ^b
10 percent duration	15	
50 percent duration	4.2	
90 percent duration	1.2	

^a From rating curve extended above 50 ft³/s.

^b Also Dec. 7, 1965.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: February 1965 to September 1967.

SEDIMENT RECORDS: February 1965 to September 1967.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 79°F, July 10, 1965; minimum, freezing point on several days during November 1965 to January 1966.

SEDIMENT CONCENTRATION: Maximum daily, 589 ppm, Feb. 10, 1966; minimum daily, 1 ppm, Jan. 13, June 8, 1967.

SEDIMENT LOAD: Maximum daily, 330 tons (estimated), Mar. 7, 1967; minimum daily, less than 0.05 ton on many days.

03051000 TYGART VALLEY RIVER AT BELINGTON, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°01'45", long 79°56'10" referenced to North American Datum of 1927, Barbour County, WV, Hydrologic Unit 05020001, on left bank opposite mouth of Mill Creek, 0.2 mi downstream from highway bridge at Belington, and at mile 62.4.

DRAINAGE AREA.--406 mi², excluding that of Mill Creek.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1907 to September 2008 (daily discharge and peaks). Prior to October 1960, published as Tygart River at Belington.

REVISED RECORDS.--WSP 953: 1933(M), 1941(M). WSP 1335: 1912, 1914-15, 1916(M), 1921-22(M), 1925(M), 1928, 1933. WSP 1385: 1909(M), 1913-15(M), 1917-18, 1924(M), 1928(M), 1932, 1934, 1936, 1938-39, 1948-49. WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,679.62 ft above NAVD 88 (1,680.35 ft above NGVD 29, 1,679.49 ft above COE 12). Prior to Apr. 25, 1939, nonrecording gage at site 0.2 mi upstream at same datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1888, reached a stage of 21.7 ft, from floodmarks at former site, discharge, 21,200 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1907 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	324	641	1,019	1,268	1,359	1,557	1,209	1,020	562	425	337	216
Max	1,765	3,431	2,837	2,731	2,905	3,765	2,387	3,847	2,449	1,997	1,981	1,202
(WY)	(1912)	(1986)	(1973)	(1911)	(1994)	(1963)	(2002)	(1996)	(1910)	(1912)	(1942)	(1971)
Min	1.26	5.74	84.2	245	255	437	383	203	51.5	18.5	2.50	0.65
(WY)	(1931)	(1954)	(1909)	(1977)	(1978)	(1910)	(1921)	(1991)	(1965)	(1999)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS		
Water Years 1907 - 2008		
Annual mean	825	
Highest annual mean	1,375	1996
Lowest annual mean	506	1966
Highest daily mean	27,400	Nov 5, 1985
Lowest daily mean	0.10	Sep 13-16, 1930
Annual seven-day minimum	0.17	Sep 13, 1930
Maximum peak flow	^a 29,500	Nov 5, 1985 (^b 23.65 ft stage)
Instantaneous low flow	0.10	Sep 13-16, 1930
Annual runoff (cfsm)	2.03	
Annual runoff (inches)	27.59	
10 percent duration	2,000	
50 percent duration	407	
90 percent duration	46	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	2.86	
7 day 10 yr low flow	3.81	
30 day 5 yr low flow	14.2	
1 day 3 yr bio-based low flow	2.96	
4 day 3 yr bio-based low flow	3.50	
10 percent duration	2,000	
50 percent duration	397	
90 percent duration	42.5	
EPA harmonic mean	62.7	

^a From rating curve extended above 18,700 ft³/s, highest since 1888.

^b From floodmarks.

03051500 MIDDLE FORK RIVER AT MIDVALE, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 38°56'20", long 80°05'25" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, at Midvale station on Coal and Coke Railway (Baltimore and Ohio), 1.0 mi downstream from Ellamore and 2.0 mi downstream from Laurel Creek.

DRAINAGE AREA.--122 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1915 to Sept. 1942 (daily discharge from manual stage observations and peaks). Previously published as Middle Fork at Midvale.

GAGE.--Wire-weight gage. Datum of gage is 1,812.59 ft above COE 12. Prior to Jan. 20, 1936 staff gage at site 0.33 mile upstream at different datum.

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Nov. 5, 1985 and May 17, 1996 were estimated as 14,000 ft³/s based on comparisons of discharges and drainage areas at stations Middle Fork River at Audra (03052000) and Tygart Valley River near Daily (03050000).

DISCHARGE SUMMARY STATISTICS	
Water Years 1915 - 1942	
Annual mean	282
Highest daily mean	6,760 May 12, 1924
Lowest daily mean	0.00 Sep 15-25, 1930
Annual seven-day minimum	0.00 Sep 15, 1930
Maximum peak flow	^a 11,400 Feb 3, 1939 (^b 18.50 ft stage)
Instantaneous low flow	0.00 Sep 15-25, 1930
10 percent duration	630
50 percent duration	154
90 percent duration	15

^a From rating curve extended above 4,000 ft³/s based on straight-line logarithmic extension.

^b From graph of gage readings.

03052000 MIDDLE FORK RIVER AT AUDRA, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°02'22", long 80°04'06" referenced to North American Datum of 1927, Barbour County, WV, Hydrologic Unit 05020001, on right bank at Audra, 600 ft upstream from highway bridge, and at mile 2.9.

DRAINAGE AREA.--148 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1942 to September 1979, and October 1988 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-97-1: Drainage area, 1944(P), 1945(M), 1947(M), 1948(P), 1949-50(M), 1955-56(M), 1957(P), 1963(P), 1964(M), 1972(P), 1986(M), 1992(M), 1994(P).

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is approximately 1,669.44 ft above NAVD 88 (VERTCON conversion of 1,670 ft above NGVD 29, from topographic map).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 5, 1985, reached a stage of 15.8 ft, from floodmarks, discharge, about 17,100 ft³/s, highest since 1888.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1942 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	125	284	479	553	580	664	527	434	228	165	138	98.9
Max	548	841	1,124	986	1,080	1,443	1,012	1,634	760	720	690	642
(WY)	(1955)	(2004)	(1973)	(1994)	(1994)	(1963)	(1973)	(1996)	(1972)	(1996)	(1942)	(1971)
Min	0.39	2.40	47.5	96.3	134	238	222	90.3	15.4	5.39	2.60	1.40
(WY)	(1954)	(1954)	(1966)	(1977)	(1978)	(2006)	(1971)	(1991)	(1965)	(1966)	(1993)	(1946)

DISCHARGE SUMMARY STATISTICS		
Water Years 1942 - 2008		
Annual mean	355	
Highest annual mean	554	1996
Lowest annual mean	203	1966
Highest daily mean	9,320	May 17, 1996
Lowest daily mean	0.20	Oct 11-27, 1953
Annual seven-day minimum	0.20	Oct 11, 1953
Maximum peak flow	16,700	May 17, 1996 (15.60 ft stage)
Instantaneous low flow	0.20	Oct 11-27, 1953
Annual runoff (cfsm)	2.40	
Annual runoff (inches)	32.62	
10 percent duration	835	
50 percent duration	194	
90 percent duration	16	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	0.49	
7 day 10 yr low flow	0.62	
30 day 5 yr low flow	3.09	
1 day 3 yr bio-based low flow	0.42	
4 day 3 yr bio-based low flow	0.54	
10 percent duration	821	
50 percent duration	180	
90 percent duration	14.1	
EPA harmonic mean	18.5	

03052300 BRIDGE RUN NEAR BUCKHANNON, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°00'41", long 80°17'25" referenced to North American Datum of 1927, Upshur County, WV, Hydrologic Unit 05020001, on right upstream wingwall of culvert on U.S. Highway 33 an 119, and 3.3 mi west of Buckhannon.

DRAINAGE AREA.--2.60 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1966 to September 1975 (annual maxima).

REVISED RECORDS.--OFR 80-560: 1967-1969(M).

GAGE.--Crest-stage gage. Datum of gage is 1,418,49 ft above NAVD 88 (VERTCON conversion of 1,419.06 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 330 ft³/s, July 12, 1969, gage height, 11.40 ft.

03052340 MUD LICK RUN NR BUCKHANNON, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°00'17", long 80°15'23" referenced to North American Datum of 1927, Upshur County, WV, Hydrologic Unit 05020001, on left upstream wingwall of culvert on US Highway 33 and 119, 1.5 mi west of Buckhannon.

DRAINAGE AREA.--2.33 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1971 (annual maximum discharge), October 1971 to September 1975, and October 1998 to September 2008 (annual maxima).

GAGE.--Crest-stage gage. Datum of gage is 1,407.10 ft above NAVD 88 (VERTCON conversion of 1,407.68 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 369 ft³/s, Mar. 20, 2002, gage height, 8.72 ft.

03052450 BUCKHANNON RIVER AT BUCKHANNON, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°00'19", long 80°12'34" referenced to North American Datum of 1927, Upshur County, WV, Hydrologic Unit 05020001, on left downstream side highway bridge, 0.5 mi northeast of Buckhannon, 1.9 mi downstream from Fink Run, 1.8 mi upstream from Turkey Run, and at mile 22.1.

DRAINAGE AREA.--217 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1999 to September 2000 (annual maximum gage height), October 2000 to September 2002 (annual maxima), October 2002 to September 2008 (annual maximum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,409.39 ft above NAVD 88 (VERTCON conversion of 1,410 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 26.22 ft, Feb. 19, 2000.

03052500 SAND RUN NEAR BUCKHANNON, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 38°57'50", long 80°09'10" referenced to North American Datum of 1927, Upshur County, WV, Hydrologic Unit 05020001, on right bank 300 ft downstream from Left Fork, 4.5 mi southeast of Buckhannon, and at mile 6.4.

DRAINAGE AREA.--14.3 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1946 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 1725: 1955(M). WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter and crest-stage gage. Elevation of gage is approximately 1,529.40 ft above NAVD 88 (VERTCON conversion of 1,530 ft above NGVD 29, from topographic map). Prior to May 4, 1983, at datum 1.00 ft higher.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1947 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	10.6	24.7	38.7	42.8	48.0	51.4	41.2	30.5	17.7	13.3	9.88	6.96
Max	60.3	145	87.3	91.1	116	119	83.9	154	75.1	59.4	48.5	30.2
(WY)	(1977)	(1986)	(1973)	(1994)	(1994)	(1993)	(1973)	(1996)	(1989)	(1958)	(1977)	(1979)
Min	0.01	0.06	3.52	9.44	11.1	12.3	10.2	4.91	0.44	0.37	0.15	0.07
(WY)	(1954)	(1954)	(1966)	(1977)	(1978)	(1987)	(1971)	(1982)	(1965)	(1966)	(1993)	(1953)

DISCHARGE SUMMARY STATISTICS	
Water Years 1947 - 2008	
Annual mean	27.9
Highest annual mean	45.3 1994
Lowest annual mean	14.8 1954
Highest daily mean	1,320 Feb 9, 1994
Lowest daily mean	0.00 Aug 26, 1951 ^a
Annual seven-day minimum	0.00 Sep 22, 1953
Maximum peak flow	^b 3,200 Nov 4, 1985 (8.34 ft stage)
Instantaneous low flow	0.00 Jul 19, 1986 ^c
Annual runoff (cfsm)	1.95
Annual runoff (inches)	26.48
10 percent duration	64
50 percent duration	13
90 percent duration	1.0
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.00
7 day 10 yr low flow	0.02
30 day 5 yr low flow	0.28
1 day 3 yr bio-based low flow	0.00
4 day 3 yr bio-based low flow	0.00
10 percent duration	65.8
50 percent duration	13.2
90 percent duration	1.0
EPA harmonic mean	1.15

^a Several days in 1951-56, 1964-66, July 19, 1986, and Sept. 11, 12, 1995.

^b From rating curve extended above 1,560 ft³/s.

^c Several days in 1951-56, 1964-66, parts of July 19, 20, 1986, and Sept. 11, 12, 1995.

03053500 BUCKHANNON RIVER AT HALL, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°03'04", long 80°06'53" referenced to North American Datum of 1927, Barbour County, WV, Hydrologic Unit 05020001, on right bank 0.2 mi upstream from highway bridge at Hall, 1.0 mi upstream from Pecks Run, and at mile 7.9.

DRAINAGE AREA.--277 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1915 to September 2008 (daily discharge and peaks). Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 783: 1918(M). WDR-US-2006: 2002-05 (P).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,368.55 ft above NAVD 88 (VERTCON conversion of 1,369.15 ft above NGVD 29).

Prior to June 9, 1939, nonrecording gage at site 500 ft downstream at present datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Some regulation at low flow from mine pumpage above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 6, 1908 reached a stage of 13.8 ft (at site 0.2 mi downstream at datum 4.12 ft lower), discharge, 9,800 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1915 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	259	515	818	925	1,006	1,110	836	670	394	295	254	172
Max	1,272	2,399	1,942	1,862	1,993	2,474	1,736	2,357	1,435	1,302	976	914
(WY)	(1938)	(1986)	(1973)	(1937)	(1994)	(1917)	(1973)	(1996)	(1950)	(1958)	(1956)	(2003)
Min	0.29	1.03	67.1	169	217	413	299	117	30.6	15.9	3.56	0.55
(WY)	(1931)	(1931)	(1931)	(1977)	(1978)	(2006)	(1971)	(1964)	(1965)	(1966)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1915 - 2008

Annual mean	603
Highest annual mean	915 1927
Lowest annual mean	354 1966
Highest daily mean	14,500 Nov 5, 1985
Lowest daily mean	0.20 Oct 21, 1930 ^a
Annual seven-day minimum	0.21 Oct 21, 1930
Maximum peak flow	^b 15,000 Nov 5, 1985 (^c 16.88 ft stage)
Instantaneous low flow	0.20 Oct 23, 1930 ^a
Annual runoff (cfsm)	2.18
Annual runoff (inches)	29.60
10 percent duration	1,410
50 percent duration	320
90 percent duration	36

Climatic Years 1930 - 2002 (Wiley, 2006)

1 day 10 yr low flow	2.27
7 day 10 yr low flow	2.75
30 day 5 yr low flow	11.2
1 day 3 yr bio-based low flow	2.45
4 day 3 yr bio-based low flow	3.00
10 percent duration	1,450
50 percent duration	307
90 percent duration	34.0
EPA harmonic mean	42.4

^a Also Oct. 22, 23, 25-27, 29, 1930.

^b From rating curve extended above 13,000 ft³/s on basis of slope-area measurement.

^c From floodmarks.

03054500 TYGART VALLEY RIVER AT PHILIPPI, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°09'01", long 80°02'20" referenced to North American Datum of 1927, Barbour County, WV, Hydrologic Unit 05020001, on right bank at Philippi 0.2 mi downstream from Anglins Run, 5.0 mi downstream from Buckhannon River, and at mile 45.5.

DRAINAGE AREA.--914 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1940 to September 2008 (daily discharge and peaks). Prior to October 1960, published as Tygart River at Philippi.

REVISED RECORDS.--WDR WV-97-1: Drainage area, 1942(M), 1943-45(P), 1947(P), 1948(M), 1955(M), 1956(P), 1957(M), 1964(P), 1965(P), 1969(M), 1986(P), 1989(M), 1990(P), 1992(P), 1993(M), 1994(P). WDR-US-2008: 1942.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,279.96 ft above NAVD 88 (VERTCON conversion of 1,280.55 ft above NGVD 29). Prior to May 23, 1940, nonrecording gage at same site and datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 25, 1912, reached a stage of 27.3 ft (read on National Weather Service gage 0.2 mi downstream), about 26 ft (present site and datum), discharge, about 37,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1940 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	716	1,643	2,569	2,847	3,179	3,576	2,855	2,251	1,284	939	784	539
Max	3,391	7,341	6,172	5,864	6,460	8,024	5,378	8,818	4,224	3,753	3,721	3,197
(WY)	(1980)	(1986)	(1973)	(1994)	(1994)	(1963)	(2002)	(1996)	(1981)	(1958)	(1942)	(2003)
Min	5.88	11.4	273	563	587	1,213	1,090	483	114	60.3	30.9	16.4
(WY)	(1954)	(1954)	(1966)	(1977)	(1978)	(2006)	(1971)	(1991)	(1965)	(1999)	(1993)	(1946)

DISCHARGE SUMMARY STATISTICS

Water Years 1940 - 2008	
Annual mean	1,923
Highest annual mean	3,136 1996
Lowest annual mean	1,105 1966
Highest daily mean	50,900 Nov 5, 1985
Lowest daily mean	4.9 Oct 10, 11, 1953
Annual seven-day minimum	5.2 Oct 9, 1953
Maximum peak flow	^a 61,000 Nov 5, 1985 (^b 31.83 ft stage)
Instantaneous low flow	4.9 Oct 10, 1953 ^c
Annual runoff (cfsm)	2.10
Annual runoff (inches)	28.58
10 percent duration	4,530
50 percent duration	1,050
90 percent duration	114
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	9.37
7 day 10 yr low flow	11.5
30 day 5 yr low flow	38.4
1 day 3 yr bio-based low flow	8.20
4 day 3 yr bio-based low flow	10.5
10 percent duration	4,580
50 percent duration	1,040
90 percent duration	111

^a From rating curve extended above 41,000 ft³/s on basis of slope-area measurement of peak flow, highest since 1888.

^b From floodmarks.

^c Also Oct. 11, 12, 21, 1953.

03055000 TYGART VALLEY RIVER AT ARDEN, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°12'40", long 79°58'40" referenced to North American Datum of 1927, Barbour County, WV, Hydrologic Unit 05020001, 0.1 mi upstream from Laurel Run, 2.7 mi upstream from Teter Creek, and 0.9 mi east of Arden.

DRAINAGE AREA.--945 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1936, January 1937, and October 1938 to March 1940 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 1,220.00 ft above mean sea level (levels by U.S. Army Corps of Engineers).

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1937 - 1940		
Highest daily mean	23,900	Feb 4, 1939
Lowest daily mean	8.5	Oct 23, 1939
Annual seven-day minimum	10	Oct 20, 1939
Maximum peak flow	^a 31,700	Feb 3, 1939 (19.66 ft stage)
Instantaneous low flow	8.0	Oct 25, 1939
10 percent duration	3,860	
50 percent duration	805	
90 percent duration	57	

^a From rating curve extended above 15,000 ft³/s.

03055020 BONICA RUN ON U.S. HIGHWAY 250 NEAR PHILIPPI, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°07'29", long 79°59'50" referenced to North American Datum of 1927, Barbour County, WV, Hydrologic Unit 05020001, at culvert on U.S. Highway 250, 2.0 mi southeast of Philippi, and at mile 2.5.

DRAINAGE AREA.--0.60 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1977 (annual maxima). Water years 1970 and 1971 published in OFR 80-560.

GAGE.--Crest-stage gage. Elevation of gage is approximately 1,679.44 ft above NAVD 88 (VERTCON conversion of 1,680 ft above NGVD 29, from topographic map).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 156 ft³/s, May 1, 1971, gage height, 6.15 ft.

03055040 BONICA RUN ON STATE ROUTE 38 NEAR PHILIPPI, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°09'11", long 79°58'44" referenced to North American Datum of 1927, Barbour County, WV, Hydrologic Unit 05020001, at culvert on State Route 38, 3.2 mi east of Philippi, and at mile 0.5.

DRAINAGE AREA.--3.15 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1963 to September 1977 (annual maxima). Water years 1965, 1969, 1971-73 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 660 ft³/s, unknown date in 1971, gage height unknown.

03055500 TYGART LAKE NEAR GRAFTON, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°18'46", long 80°02'02" referenced to North American Datum of 1927, Taylor County, WV, Hydrologic Unit 05020001, at dam on Tygart Valley River, 2.2 mi upstream from Threefork Creek, 2.4 mi upstream from Grafton, and at mile 150.9.

DRAINAGE AREA.--1,182 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2005 to September 2008 (annual maximum and minimum water-surface elevations).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is at NGVD 29 (0.63 ft below NAVD 88, VERTCON conversion of 0.00 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum water-surface elevation above NGVD 29, 1,135.65 ft, June 6, 2008; minimum, 1,032.13 ft, Feb. 13, 14, 2007.

03056000 TYGART VALLEY RIVER AT TYGART DAM NEAR GRAFTON, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°19'11", long 80°01'31" referenced to North American Datum of 1927, Taylor County, WV, Hydrologic Unit 05020001, downstream of Tygart Dam, 2.2 mi upstream from Threefork Creek, 2.4 mi upstream from Grafton, and at mile 150.9.

DRAINAGE AREA.--1,182 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1938 to September 1982, October 1986 to September 1988 (daily and annual maximum discharge), October 1988 to September 1991 (daily discharge and peaks), October 2005 to September 2008 (annual maximum gage height). Prior to October 1960, published as Tygart River at Tygart Dam near Grafton. Records prior to June 1, 1987, provided by U.S. Army Corps of Engineers.

REVISED RECORDS.--WDR-US-2006: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 960.55 ft above COE 12.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1938 - 1991, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,228	1,997	3,337	3,601	4,028	4,430	2,691	2,289	1,668	1,093	1,200	913
Max	5,458	5,573	8,483	7,025	9,046	10,660	6,064	6,566	6,212	3,590	5,444	4,157
(WY)	(1980)	(1963)	(1973)	(1991)	(1956)	(1963)	(1965)	(1989)	(1981)	(1972)	(1958)	(1971)
Min	320	341	505	667	1,150	1,664	345	263	245	237	280	331
(WY)	(1947)	(1954)	(1966)	(1956)	(1941)	(1960)	(1955)	(1982)	(1965)	(1965)	(1965)	(1983)

DISCHARGE SUMMARY STATISTICS		
Water Years 1938 - 1991		
Annual mean	2,369	
Highest annual mean	3,274	1989
Lowest annual mean	1,412	1966
Highest daily mean	18,800	Feb 8, 1939
Lowest daily mean	0.00	Aug 2, 1938
Annual seven-day minimum	95	Apr 30, 1941
Maximum peak flow	21,000	Mar 26, 1965 (18.50 ft stage)
Instantaneous low flow	0.00	Aug 2, 1938
10 percent duration	6,090	
50 percent duration	1,210	
90 percent duration	350	

03056250 THREE FORK CREEK NEAR GRAFTON, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°20'11", long 79°59'37" referenced to North American Datum of 1927, Taylor County, WV, Hydrologic Unit 05020001, on right bank 20 ft downstream from bridge on State Secondary Route 50/9, 1.4 mi east of Grafton, and at mile 1.8.

DRAINAGE AREA.--96.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1984 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is 999.37 ft above NAVD 88 (VERTCON conversion of 1,000 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1985 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	58.3	191	244	289	322	331	256	201	128	92.3	45.9	43.1
Max	237	654	603	549	643	598	410	598	500	235	171	217
(WY)	(1997)	(1986)	(2008)	(1996)	(1986)	(1994)	(2004)	(1996)	(1998)	(2000)	(1994)	(2003)
Min	4.49	12.4	31.7	63.3	121	80.2	84.5	44.0	7.07	3.85	1.56	0.90
(WY)	(1992)	(1999)	(1999)	(2000)	(2002)	(1987)	(1995)	(1999)	(1991)	(1991)	(1999)	(1999)

DISCHARGE SUMMARY STATISTICS		
Water Years 1985 - 2008		
Annual mean	183	
Highest annual mean	272	1996
Lowest annual mean	112	1988
Highest daily mean	5,200	Nov 5, 1985
Lowest daily mean	0.49	Aug 16, 18, 1988
Annual seven-day minimum	0.55	Aug 13, 1988
Maximum peak flow	^a 12,000	Nov 5, 1985 (^b 20.13 ft stage)
Instantaneous low flow	0.44	Aug 18, 1988
Annual runoff (cfsm)	1.89	
Annual runoff (inches)	25.64	
10 percent duration	425	
50 percent duration	90	
90 percent duration	8.3	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	0.68	
7 day 10 yr low flow	0.83	
30 day 5 yr low flow	3.11	
1 day 3 yr bio-based low flow	0.56	
4 day 3 yr bio-based low flow	0.69	
10 percent duration	432	
50 percent duration	82.7	
90 percent duration	6.6	
EPA harmonic mean	15.0	

^a From rating curve extended above 10,000 ft³/s on basis of slope-area measurement of peak flow.

^b From floodmarks.

03056500 TYGART VALLEY RIVER AT FETTERMAN, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°21'00", long 80°02'30" referenced to North American Datum of 1927, Taylor County, WV, Hydrologic Unit 05020001, at highway bridge at Fetterman, 0.75 mi upstream from Otter Creek, 4.0 mi downstream from Tygart Dam, and at mile 148.

DRAINAGE AREA.—1,304 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1907 to May 1939 (daily discharge and peaks). Prior to October 1960, published as Tygart River at Fetterman.

GAGE.--Water-stage recorder. Datum of gage is 957.86 ft above COE 12. Prior to Oct. 15, 1932, chain gage at same site and datum.

REMARKS.-- Water-discharge records in ft³/s, stage readings in ft. Flow regulated since May 1938 by Tygart Dam.

DISCHARGE SUMMARY STATISTICS		
Water Years 1907 - 1939		
Annual mean	2,599	
Highest daily mean	45,300	Jul 25, 1912
Lowest daily mean	1.2	Oct 15, 1930
Annual seven-day minimum	1.3	Oct 19, 1930
Maximum peak flow	^a 74,300	Jul 25, 1912
	(^b 29.10 ft stage)	
Instantaneous low flow	1.1	Oct 21, 1930
10 percent duration	6,290	
50 percent duration	1,330	
90 percent duration	155	

^a From rating curve extended above 36,000 ft³/s based on an average of a straight-line logarithmic extension, an extension of a velocity curve, and a slope-area determination at a gage height of 24.85 ft.

^b From floodmarks.

03056600 RIGHT FORK WICKWIRE RUN ON U.S. HIGHWAY 119 NEAR GRAFTON, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°22'44", long 79°57'48" referenced to North American Datum of 1927, Taylor County, WV, Hydrologic Unit 05020001, at culvert at intersection of U.S. Highway 119 and Wickwire Road, 0.7 mi upstream from confluence with Wickwire Run, and 4.0 mi northeast of Grafton.

DRAINAGE AREA.--2.33 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1977 (annual maxima). Water year 1965 published in OFR 80-560.

GAGE.--Crest-stage gage. Elevation of gage approximately 1,309.39 ft above NAVD 88 (VERTCON conversion of 1,310 ft above NGVD 29, from topographic map).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 430 ft³/s, Dec. 30, 1969, gage height, 9.60 ft.

03057000 TYGART VALLEY RIVER AT COLFAX, WV

Monongahela Basin
Tygart Valley Subbasin

LOCATION.--Lat 39°26'06", long 80°07'58" referenced to North American Datum of 1927, Marion County, WV, Hydrologic Unit 05020001, downstream side of right abutment of highway bridge at Colfax, 300 ft upstream from Guyses Run and 6 mi upstream from confluence with West Fork River.

DRAINAGE AREA.--1,363 mi², including that of Guyses Run.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1939 to September 1995 (daily discharge and annual maxima), October 1995 to September 2002 (annual maxima), October 2002 to September 2008 (annual maximum gage height). Prior to October 1960 published as Tygart River at Colfax.

REVISED RECORDS.--WSP 1083: 1942(M), WSP 1335: 1941, WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 855.68 ft above NAVD 88 (856.27 ft above NGVD 29). Auxiliary water-stage recorder Jan. 19, 1945 to Sept. 30, 1985, at site 5.7 mi at datum 856.43 ft above NAVD 88 (856.99 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow regulated by Tygart Dam. Possible backwater at times from West Fork River but unable to define.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1888 reached a stage of 39.6 ft at site 1,100 ft downstream, present datum, from information by local resident. The stage on that day was probably affected by backwater from West Fork River.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1939 - 1995, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,295	2,313	3,864	3,953	4,560	4,991	3,101	2,633	1,751	1,283	1,326	996
Max	5,957	8,667	9,185	7,459	10,170	12,270	6,466	7,140	7,124	4,043	5,745	4,477
(WY)	(1980)	(1986)	(1973)	(1952)	(1994)	(1963)	(1965)	(1967)	(1981)	(1958)	(1958)	(1971)
Min	359	339	489	861	1,304	1,824	647	274	264	251	303	336
(WY)	(1947)	(1954)	(1966)	(1977)	(1941)	(1969)	(1963)	(1982)	(1965)	(1965)	(1965)	(1983)

DISCHARGE SUMMARY STATISTICS		
Water Years 1939 - 1995		
Annual mean	2,665	
Highest annual mean	3,931	1994
Lowest annual mean	1,570	1966
Highest daily mean	24,900	Nov 5, 1985
Lowest daily mean	129	May 5, 1941
Annual seven-day minimum	132	May 1, 1941
Maximum peak flow	31,700	Nov 5, 1985
Maximum peak stage (ft)	^a 19.77	Mar 5, 1963
Instantaneous low flow	94	Jul 3, 1946
10 percent duration	6,700	
50 percent duration	1,420	
90 percent duration	405	

^a Backwater from West Fork River.

03057300 WEST FORK RIVER AT WALKERSVILLE, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 38°52'07", long 80°27'29" referenced to North American Datum of 1927, Lewis County, WV, Hydrologic Unit 05020002, on left bank at downstream side of highway bridge on Secondary Route 44 in Walkersville, 100 ft downstream from Right Fork, and at mile 95.3.

DRAINAGE AREA.--28.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1984 to September 1992 (daily discharge and peaks), October 1992 to September 2002 (annual maxima), October 2002 to September 2008 (annual maximum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,070.01 ft above NAVD 88 (1,070.64 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Records affected by unquantified backwater from Stonewall Jackson Lake.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1984 - 1992, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	23.2	76.6	79.8	67.8	97.6	85.9	73.5	49.5	22.9	23.8	16.3	10.0
Max	65.9	214	163	118	159	138	118	144	113	79.3	52.3	22.8
(WY)	(1990)	(1986)	(1991)	(1990)	(1986)	(1991)	(1987)	(1989)	(1989)	(1992)	(1984)	(1984)
Min	3.83	22.4	30.2	31.2	65.0	19.3	28.5	3.91	0.04	0.05	0.65	0.08
(WY)	(1988)	(1991)	(1989)	(1985)	(1988)	(1987)	(1985)	(1991)	(1987)	(1987)	(1987)	(1985)

DISCHARGE SUMMARY STATISTICS		
Water Years 1984 - 1992		
Annual mean	51.5	
Highest annual mean	66.3	1989
Lowest annual mean	28.9	1988
Highest daily mean	1,490	Nov 4, 1985
Lowest daily mean	0.00	(a)
Annual seven-day minimum	0.00	Sep 8, 1985
Maximum peak flow	3,390	Nov 4, 1985
Maximum peak stage (ft)	^b 20.60	Aug 18, 2000
Instantaneous low flow	0.00	(a)
Annual runoff (cfsm)	1.78	
Annual runoff (inches)	24.20	
10 percent duration	123	
50 percent duration	19	
90 percent duration	0.54	

^a No flow many days in water years 1985, 1987, and 1988.

^b From floodmark, backwater.

03057500 SKIN CREEK NEAR BROWNSVILLE, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 38°58'30", long 80°26'40" referenced to North American Datum of 1927, Lewis County, WV, Hydrologic Unit 05020002, on right bank, 0.6 mi upstream from Glady Fork, 4.7 mi southeast of Weston, 2.6 mi southeast of Brownsville, and at mile 3.0.

DRAINAGE AREA.--25.7 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1945 to September 1960 (daily discharge and peaks), October 1960 to September 1985 (annual maxima). Prior to 1949, published as Skin Creek near Weston.

GAGE.--Water-stage recorder. Elevation of gage is approximately 1,029.43 ft above NAVD 88 (VERTCON conversion of 1,030 ft above NGVD 29, from topographic map). Prior to Feb. 5, 1946, staff gage at same site and datum.

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--5 years (1945-50), 45.7 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1946 - 1960		
Highest daily mean	1,160	Feb 1, 1951
Lowest daily mean	0.00	Aug 22, 1951
Annual seven-day minimum	0.00	Oct 18, 1951
Maximum peak flow	^a 2,280	Feb 10, 1957
Maximum peak stage (ft)	8.64	Jun 25, 1950
Instantaneous low flow	0.00	(b)
10 percent duration	102	
50 percent duration	13	
90 percent duration	0.40	

Climatic Years 1930 – 2002 (Wiley, 2006)

1 day 10 yr low flow	0.00
7 day 10 yr low flow	0.00
30 day 5 yr low flow	0.01
1 day 3 yr bio-based low flow	0.00
4 day 3 yr bio-based low flow	0.00
10 percent duration	105
50 percent duration	13.4
90 percent duration	0.3
EPA harmonic mean	0.96

^a From rating curve extended above slope-area measurements at 1,400 and 2,100 ft³/s.

^b No flow many days most years.

03057900 STONEWALL JACKSON LAKE NEAR WESTON, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 39°00'13.0", long 80°28'27.2" referenced to North American Datum of 1983, Lewis County, WV, Hydrologic Unit 05020002, at Stonewall Jackson Dam, 3.0 mi south of Weston, and at mile 74.2.

DRAINAGE AREA.--101 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2005 to September 2008 (annual maximum and minimum water-surface elevation).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is at NGVD 29 (0.55 ft below NAVD 88, VERTCON conversion of 0.00 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum water-surface elevation above NGVD 29, 1,077.64 ft, June 5, 2008; minimum, 1,066.70 ft, Oct. 23, 2007.

03058000 WEST FORK RIVER BELOW STONEWALL JACKSON DAM NR WESTON, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 39°00'16.3", long 80°28'24.1" referenced to North American Datum of 1983, Lewis County, WV, Hydrologic Unit 05020002, on left bank, 500 ft downstream from Stonewall Jackson Dam, 3.0 mi south of Weston, and at mile 73.9.

DRAINAGE AREA.--101 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1946 to September 1984 (daily discharge and peaks, published as West Fork River at Brownsville), October 1984 to September 1990 (daily discharge and annual maxima, published as West Fork River at Ben Dale), October 1990 to September 1991 (daily discharge and annual maxima), October 2005 to September 2008 (annual maximum and minimum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,006.18 ft above NAVD 88 (VERTCON conversion of 1,006.73 ft above NGVD 29). October 1990 to September 1991 at datum of 1,009.42 ft above NAVD 88 (1,009.97 ft above NGVD 29). October 1984 to September 1990 at site 1.1 mi downstream at approximate datum of 1,008.05 ft above NAVD 88 (1,008.6 ft above NGVD 29, from topographic map). Nov. 8, 1982 to September 1984 at site 0.3 mi upstream at datum of 1,009.42 ft above NAVD 88 (1,009.97 ft above NGVD 29). Aug. 15, 1949 to Nov. 8, 1982 at site 0.3 mi upstream at datum of 1,010.30 ft above NAVD 88 (1,010.85 ft above NGVD 29). Prior to Aug. 15, 1949, nonrecording gage at site 0.3 mi upstream at datum of 1,010.30 ft above NAVD 88 (1,010.85 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow regulated since January 1990 by Stonewall Jackson Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height October 2005 to September 2008, 11.08 ft, June 6, 2008; minimum, 7.74 ft, Feb. 12, 13, 2007.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--Maximum discharge, 10,500 ft³/s, Nov. 5, 1985, gage height, 16.76 ft, at site and datum then in use, from rating curve extended above 3,400 ft³/s on basis of slop-area measurement of peak discharge; maximum gage height, 17.20 ft, June 25, 1950, at site and datum then in use; no flow for several days during water years 1952-54, and 1987, and on Sept. 16, 1965.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1990 to November 1999, July 2005 to September 2008.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May to November 1999, July 2005 to September 2008.

pH: May to November 1999, July 2005 to September 2008.

WATER TEMPERATURES: May to November 1999, July 2005 to September 2008.

DISSOLVED OXYGEN: May to November 1999, July 2005 to September 2008.

INSTRUMENTATION.--Water-quality monitor May to November 1999, July 2005 to September 2008. Water-quality monitor operated April to December.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 136 microsiemens, Dec. 2, 2007; minimum recorded, 91 microsiemens, Aug. 6, 2007.

pH: Maximum recorded, 7.7 units, Aug. 13, 15, 1999, Aug. 16, 17, Sept. 7, 8, 9, 2005; minimum recorded, 6.8 units, several days in 1999, Oct. 9, 2005, June 11, 12, 24, 25, 2007.

WATER TEMPERATURES: Maximum recorded, 25.8°C, Aug. 13, 1999; minimum recorded, 3.0°C, Feb. 28, 2008.

DISSOLVED OXYGEN: Maximum recorded, 13.4 mg/L, Dec. 20, 2005; minimum recorded, 5.7 mg/L, Oct. 15, 1999.

03058020 WEST FORK RIVER AT WESTON, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 39°02'09", long 80°28'14" referenced to North American Datum of 1927, Lewis County, WV, Hydrologic Unit 05020002, on right bank at Weston, 0.6 mi upstream from Stonecoal Creek, 1.5 mi downstream from Murphy Creek, and at mile 69.9.

DRAINAGE AREA.--122 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2005 to September 2008 (annual maximum and minimum gage height).

GAGE.--Water-stage recorder. Datum of gage is approximately 999.49 ft above NAVD 88 (VERTCON conversion of 1,000 ft above NGVD 29, from topographic map).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 10.57 ft, Jan. 23, 2006; minimum, 5.31 ft, Feb. 12, 13, 2007.

03058180 STONECOAL CREEK NEAR BUCKHANNON, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 39°00'04", long 80°20'58" referenced to North American Datum of 1927, Lewis County, WV, Hydrologic Unit 05020002, on right upstream wingwall of culvert at intersection of U.S. Highway 33 and 119 and Secondary Route 119/30, and 6.5 mi west of Buckhannon.

DRAINAGE AREA.--1.99 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1973 (annual maxima). Water years 1966 and 1973 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 290 ft³/s, May 24, 1968, and May 13, 1971; maximum gage height, 11.35 ft, May 13, 1971.

03058500 WEST FORK RIVER AT BUTCHERVILLE, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 39°05'26", long 80°28'04" referenced to North American Datum of 1927, Lewis County, WV, Hydrologic Unit 05020002, on right bank at Butcherville, 0.5 mi upstream from Freemans Creek, 3,500 ft downstream from abandoned railroad bridge, 3.0 mi north of Weston, and at mile 65.0.

DRAINAGE AREA.--181 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1915 to June 1925 (daily discharge and peaks), July to September 1925 (monthly discharge, published in WSP 1305), October 1925 to September 1976 (daily discharge and peaks), October 1976 to September 2000 (daily discharge and annual maxima), October 2000 to September 2002 (annual maxima), October 2002 to September 2008 (annual maximum gage height).

REVISED RECORDS.--WSP 1053: 1935. WSP 1335: 1918, 1923.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 992.44 ft above NAVD 88 (VERTCON conversion of 993.00 ft above NGVD 29). Prior to Feb. 17, 1937, nonrecording gage at abandoned railroad bridge 3,500 ft upstream. Feb. 17, 1937 to Apr. 9, 1939, nonrecording gage at site 2,500 ft upstream. Prior to Oct. 1, 1942, at datum 10 ft lower.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow partially regulated since 1973 by Stonecoal Reservoir, and regulated since January 1990 by Stonewall Jackson Dam.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--56 years (water years 1916-72), 298 ft³/s, 22.38 in/yr.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--Maximum discharge, 18,000 ft³/s, June 25, 1950, gage height, 16.81 ft, from rating curve extended above 7,500 ft³/s on basis of slope-area measurement of peak flow, highest since 1888; no flow at times during October 1919 and December 1922 caused by either diversion or pondage at small dam upstream.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1973 - 2000, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	144	299	425	440	519	529	410	330	217	154	145	125
Max	487	1,631	1,188	958	1,243	945	934	1,212	824	362	381	538
(WY)	(1980)	(1986)	(1979)	(1991)	(1994)	(1994)	(1973)	(1996)	(1981)	(1986)	(1996)	(1989)
Min	20.7	79.0	79.2	62.1	136	142	95.7	49.8	18.2	15.2	33.1	33.0
(WY)	(1989)	(1988)	(1999)	(2000)	(1993)	(1990)	(1999)	(1982)	(1987)	(1987)	(1988)	(1983)

DISCHARGE SUMMARY STATISTICS		
Water Years 1973 - 2000		
Annual mean	310	
Highest annual mean	475	1994
Lowest annual mean	159	1988
Highest daily mean	13,400	Nov 5, 1985
Lowest daily mean	4.3	Sep 13, 1973
Annual seven-day minimum	5.4	Jun 15, 1984
Maximum peak flow	14,400	Nov 5, 1985 (15.15 ft stage)
Instantaneous low flow	4.3	Sep 13, 14, 1973
10 percent duration	764	
50 percent duration	142	
90 percent duration	37	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	0.66	
7 day 10 yr low flow	0.88	
30 day 5 yr low flow	3.88	
1 day 3 yr bio-based low flow	0.59	
4 day 3 yr bio-based low flow	0.75	
10 percent duration	738	
50 percent duration	106	
90 percent duration	9.4	
EPA harmonic mean	16.8	

03058975 WEST FORK RIVER AT MOUNT CLARE, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 39°14'19", long 80°21'33" referenced to North American Datum of 1927, Harrison County, WV, Hydrologic Unit 05020002, on right bank, 4 mi south of Clarksburg and 2 mi north of Mount Clare, 0.3 mi off County Route 25 on County Route 34, and at mile 38.2.

DRAINAGE AREA.--368 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1987 to September 2004 (daily discharge and annual maxima), October 2004 to September 2008 (annual maximum gage height).

REVISED RECORDS.--WRD WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 930.44 ft above NAVD 88 (VERTCON conversion of 931.04 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow partially regulated since 1973 by Stonecoal Reservoir, and regulated since January 1990 by Stonewall Jackson Dam.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1987 - 2004, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	218	433	646	853	1,064	1,125	735	716	481	264	257	234
Max	758	1,771	1,442	1,814	2,172	1,987	1,385	2,359	1,319	477	623	578
(WY)	(1990)	(2004)	(1991)	(1994)	(1994)	(1994)	(2004)	(1996)	(2003)	(1996)	(1994)	(2003)
Min	48.2	91.5	135	120	282	417	222	124	90.3	32.8	46.5	59.5
(WY)	(1989)	(1995)	(1999)	(2000)	(2002)	(1990)	(1999)	(1987)	(1999)	(1988)	(1988)	(1988)

DISCHARGE SUMMARY STATISTICS		
Water Years 1987 - 2004		
Annual mean	591	
Highest annual mean	887	2004
Lowest annual mean	338	1988
Highest daily mean	9,780	Feb 9, 1994
Lowest daily mean	7.4	Oct 2, 1988
Annual seven-day minimum	12	Aug 9, 1987
Maximum peak flow	11,600	Feb 9, 1994 (19.08 ft stage)
Instantaneous low flow	6.6	Oct 2, 1988
10 percent duration	1,360	
50 percent duration	299	
90 percent duration	98	

03059000 WEST FORK RIVER AT CLARKSBURG, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 39°16'15", long 80°21'20" referenced to North American Datum of 1927, Harrison County, WV, Hydrologic Unit 05020002, on downstream side of left abutment of Hartland Bridge on Camden Street at Clarksburg, 700 ft downstream from dam at Clarksburg waterworks, 1.2 mi upstream from Elk Creek, and at mile 32.4.

DRAINAGE AREA.--384 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1923 to September 1940 (daily discharge and annual maxima), October 1940 to September 1983 (daily discharge and peaks).

REVISED RECORDS.--WSP 1113: 1924, 1927, 1929(M), 1930, 1933-35(M), 1936-39, 1940(P), 1944(M), 1945. WDR-US-2008: 1935.

GAGE.--Water-stage recorder. Datum of gage is 921.21 ft above NAVD 88 (VERTCON conversion of 921.82 ft above NGVD 29). Prior to Oct. 1, 1961, water-stage recorder at several sites 700 ft upstream at datum 10 ft higher. June 11, 1954, to Sept. 30, 1964, present base gage used as the supplementary gage. Since Oct. 1, 1961, former base gage used as supplementary gage.

REMARKS.-- Water-discharge records in ft³/s, stage readings in ft. Some water diverted for supply of City of Clarksburg. The flow from 36.1 mi² is partially controlled, but not diverted, by nine floodwater detention reservoirs and since 1973 by Stonecoal Reservoir. Some additional regulation of low flow by five other reservoirs, combined capacity of 1,950 acre-ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 5, 1985, 21,000 ft³/s, was estimated based on the discharges at West Fork River at Enterprise (03061000) and West Fork River at Butcherville (03058500), drainage areas, and comparison with the 1967 peak at the stations identified above and West Fork River below Stonewall Jackson Dam near Weston (03058000). The flood of Nov. 5, 1985 is the highest since 1888.

DISCHARGE SUMMARY STATISTICS		
Water Years 1923 - 1983		
Annual mean	^a 592	
Highest daily mean	16,900	Mar 7, 1967
Lowest daily mean	0.00	Nov 6, 1931
Annual seven-day minimum	0.00	Sep 3, 1932
Maximum peak flow	17,800	Mar 7, 1967 (23.40 ft stage)
Instantaneous low flow	0.00	(b)
10 percent duration	1,470	
50 percent duration	217	
90 percent duration	12	
Climatic Years 1930 - 2002 (Wiley, 2006)		

1 day 10 yr low flow	0.00
7 day 10 yr low flow	0.00
30 day 5 yr low flow	2.22
1 day 3 yr bio-based low flow	0.00
4 day 3 yr bio-based low flow	0.00
10 percent duration	1,500
50 percent duration	217
90 percent duration	12.1
EPA harmonic mean	17.3

^a Adjusted for diversion.

^b No flow during parts of several years.

03059500 ELK CREEK AT QUIET DELL, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 39°13'40", long 80°17'50" referenced to North American Datum of 1927, Harrison County, WV, Hydrologic Unit 05020002, on left bank 200 ft downstream from highway bridge at Quiet Dell, 0.9 mi upstream from Brushy Fork, and at mile 8.4.

DRAINAGE AREA.--84.6 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1943 to September 1970 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is 960.72 above COE 12. Prior to June 29, 1958, nonrecording gage and crest-stage gage 200 ft upstream at same datum.

REMARKS--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1944 - 1970		
Annual mean	118	
Highest daily mean	4,860	Feb 14, 1948
Lowest daily mean	0.20	Sep 14, 1952
Annual seven-day minimum	0.36	Oct 4, 1953
Maximum peak flow	8,900	Feb 10, 1957 (17.40 ft stage)
Instantaneous low flow	0.20	Sep 14, 1952
10 percent duration	278	
50 percent duration	44	
90 percent duration	4.8	

^a From rating curve extended above 5,000 ft³/s on basis of slope-area measurement of peak flow.

03060000 SALEM FORK SUBWATERSHED #11A VARNER HOLLOW NEAR SALEM, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 39°18'25", long 80°34'25" referenced to North American Datum of 1927, Harrison County, WV, Hydrologic Unit 05020002, at Mason Dam on Varner Hollow Run, a tributary to Jacobs Run, 2 mi northwest of Salem, and at mile 0.8.

DRAINAGE AREA.--0.29 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1954 to September 1961 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 1,126.78 ft above NAVD 88 (VERTCON conversion of 1,127.27 ft above NGVD 29, from National Resource Conservation Service bench mark).

REMARKS.-- Water-discharge records in ft³/s, stage readings in ft. 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 ft concrete drop inlet connected to a 24-in. steel outlet pipe. Top of drop inlet is at elevation 1,140.9 ft. A 12-in. 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 elevation 1,131.1 ft (top of steel pipe) and 1,145.6 ft (crest of spillway).

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--7 years, 0.43 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum outflow, 11 ft³/s, Aug. 6, 1956, gage height, 13.95 ft; no flow for several days each year.

03060500 SALEM FORK AT SALEM, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 39°17'10", long 80°32'35" referenced to North American Datum of 1927, Harrison County, WV, Hydrologic Unit 05020002, on left bank 0.2 mi downstream from Dog Run, 0.8 mi upstream from Cherrycamp Run, 0.9 mi northeast of Salem, and at mile 5.1.

DRAINAGE AREA.--8.32 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1951 to September 1969 (daily discharge and peaks).

REVISED RECORDS.--WSP 1435: 1955.

GAGE.--Water-stage recorder. Datum of gage is 1,025.55 ft above NAVD 88 (VERTCON conversion of 1,026.04 ft above NGVD 29). Prior to Apr. 20, 1951, nonrecording gage on left bank 400 ft downstream at same datum.

REMARKS.-- Water-discharge records in ft³/s, stage readings in ft. The flow from 1,498 acres upstream from station was partially controlled, but not diverted, by seven floodwater detention reservoirs with a total combined detention capacity of 376 acre-ft below the emergency spillways. 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 completed in October 1954, and the seventh completed in September 1958.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of June 25, 1950 reached a stage of 13.6 ft, discharge 2,900 ft³/s.

DISCHARGE SUMMARY STATISTICS

Water Years 1951 - 1969	
Annual mean	10.7
Highest daily mean	600 Mar 5, 1963
Lowest daily mean	0.00 Aug 6, 1951
Annual seven-day minimum	0.00 Jul 19, 1952
Maximum peak flow	^a 2,280 Aug 22, 1955 (^b 11.88 ft stage)
Instantaneous low flow	0.00 (c)
10 percent duration	27
50 percent duration	2.6
90 percent duration	0.04

^a From rating curve extended above 1,000 ft³/s on basis of slope-area measurement at gage height 13.6 ft.

^b From floodmarks.

^c No flow at times most years.

03061000 WEST FORK RIVER AT ENTERPRISE, WV

Monongahela Basin
West Fork Subbasin

LOCATION.--Lat 39°25'20", long 80°16'34" referenced to North American Datum of 1927, Harrison County, WV, Hydrologic Unit 05020002, on left bank 150 ft downstream from old highway bridge and 0.3 mi above new highway bridge at Enterprise, 0.8 mi upstream from Bingamon Creek, and at mile 12.1.

DRAINAGE AREA.--759 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1907 to September 1916, and October 1932 to September 1983 (daily discharge and peaks), October 1983 to September 1984 (daily mean gage height and annual maxima), October 1984 to September 2008 (daily discharge and annual maxima).

REVISED RECORDS.--WSP 803: 1936. WSP 823: Drainage area. WSP 1113: 1936-38(M), 1939. WSP 1335: 1911-15, 1937. WSP 1625: 1915(M), 1935(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 869.45 ft above COE 12. June 1907 to September 1916, nonrecording gage at site 150 ft upstream at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow partially regulated since 1973 by Stonecoal Reservoir. Flow regulated since January 1990 by Stonewall Jackson Lake. Unregulated statistics of monthly mean data and summary statistics for water years 1907-1916, 1933-1972 are also published.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1888 reached a stage of about 33 ft, estimated discharge, 48,000 ft³/s, at present site and datum (published in WDR WV-97-1).

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1907-1916, 1933-1972, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	389	668	1,453	2,071	2,177	2,279	1,637	1,130	670	443	465	385
Max	2,356	2,612	3,594	6,011	4,202	5,727	3,795	3,417	2,293	2,648	2,142	2,973
(WY)	(1938)	(1914)	(1943)	(1937)	(1916)	(1963)	(1940)	(1967)	(1950)	(1958)	(1956)	(1945)
Min	20.3	20.0	34.1	310	332	426	138	147	30.7	57.0	25.4	19.8
(WY)	(1939)	(1909)	(1909)	(1967)	(1954)	(1910)	(1910)	(1939)	(1936)	(1911)	(1910)	(1908)

DISCHARGE SUMMARY STATISTICS	
WY 1907-1916, 1933-1972	
Annual mean	1,136
Highest annual mean	1,879 1945
Lowest annual mean	548 1954
Highest daily mean	33,300 Mar 7, 1967
Lowest daily mean	4.0 Jul 26, 1934
Annual seven-day minimum	6.4 Oct 16, 1939
Maximum peak flow	^a 36,500 Mar 7, 1967 (28.05 ft stage)
Instantaneous low flow	3.4 Jul 27, 1934
10 percent duration	2,800
50 percent duration	440
90 percent duration	55

^a From rating curve extended above 21,000 ft³/s on basis of slope-area measurement at gage height 27.84 ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1973 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	470	1,048	1,550	1,800	2,059	2,145	1,573	1,367	936	548	446	368
Max	1,762	5,040	4,494	4,085	4,455	4,453	3,181	4,999	3,796	1,499	1,773	1,313
(WY)	(1977)	(1986)	(1979)	(1994)	(1994)	(1994)	(1973)	(1996)	(1981)	(1996)	(1980)	(2004)
Min	63.9	157	209	273	480	497	488	250	148	75.5	69.5	77.0
(WY)	(1989)	(1999)	(1999)	(2000)	(1978)	(1987)	(1995)	(1982)	(2007)	(1988)	(1988)	(1983)

DISCHARGE SUMMARY STATISTICS

Water Years 1973 - 2008	
Annual mean	1,190
Highest annual mean	1,859 2004
Lowest annual mean	583 1988
Highest daily mean	37,900 Nov 5, 1985
Lowest daily mean	14 Oct 18, 1988
Annual seven-day minimum	20 Oct 12, 1988
Maximum peak flow	^a 41,100 Nov 5, 1985 (30.37 ft stage)
Instantaneous low flow	12 Oct 18, 1988
10 percent duration	2,730
50 percent duration	595
90 percent duration	135
Climatic Years 1930 – 2002 (Wiley, 2006)	
1 day 10 yr low flow	12.0
7 day 10 yr low flow	15.6
30 day 5 yr low flow	44.3
1 day 3 yr bio-based low flow	9.51
4 day 3 yr bio-based low flow	15.9
10 percent duration	2,840
50 percent duration	480
90 percent duration	72.6
EPA harmonic mean	176

^a From rating curve extended above 36,400 ft³/s, highest since 1888.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1998 to November 1999, August 2005 to September 2008.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June to November 1999, August 2005 to September 2008.

pH: June to November 1999, August 2005 to September 2008.

WATER TEMPERATURE: June to November 1999, September 2005 to September 2008.

DISSOLVED OXYGEN: June to November 1999, August 2005 to September 2008.

INSTRUMENTATION.--Water-quality monitor August 1998 to November 1999, August 2005 to September 2008. Water-quality monitor operated May to November.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 1,640 microsiemens, June 28, 2007; minimum recorded, 218 microsiemens, June 4, 2008.

pH: Maximum recorded, 8.8 units, Sept. 8, 9, 2005; minimum recorded, 6.9 units, Nov. 5, 8, 1999.

WATER TEMPERATURE: Maximum recorded, 30.7° C, July 5, 1999; minimum recorded, 6.6° C, Nov. 4, 2006.

DISSOLVED OXYGEN: Maximum recorded, 14.1 mg/L, Nov. 8, 2007; minimum recorded, 2.8 mg/L, Oct. 5, 2007.

03061410 LAUREL RUN AT CURTISVILLE, WV

Monongahela Basin
Upper Monongahela Subbasin

LOCATION.--Lat 39°31'14", long 80°26'20" referenced to North American Datum of 1927, Marion County, WV, Hydrologic Unit 05020003, on right upstream wingwall of bridge on Secondary State Route 7, 1.4 mi west of Logansport, and 250 ft from mouth.

DRAINAGE AREA.--1.11 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1977 to September 1980 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 1,005.30 ft above NAVD 88 (VERTCON conversion of 1,005.81 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
	Water Years 1978 - 1980	
Highest daily mean	41	Jan 26, 1978
Lowest daily mean	0.02	Oct 5, 1978
Annual seven-day minimum	0.04	Sep 5, 1978
Maximum peak stage (ft)	^a 6.78	Aug 18, 1980
Instantaneous low flow	0.01	Jul 21, 1980
10 percent duration	5.2	
50 percent duration	0.84	
90 percent duration	0.12	

^a Backwater from Owen Davy Fork, discharge not determined.

03061430 WHETSTONE RUN NEAR MANNINGTON, WV

Monongahela Basin
Upper Monongahela Subbasin

LOCATION.--Lat 39°31'03", long 80°22'17" referenced to North American Datum of 1927, Marion County, WV, Hydrologic Unit 05020003.

DRAINAGE AREA.--1.98 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2003 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,003.45 ft above NAVD 88 (VERTCON conversion of 1,004.00 ft above NGVD 29).

REMARKS.--Dam name: Upper Buffalo Creek No. 37-A

Surface area: 8 acres

Normal Pool = 12.60 ft (Normal Storage = 76 acre-ft)

Top of Riser = 26.00 ft

Emergency Spillway = 32.50 ft

Top of Dam = 48.90 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 24.26 ft, Dec. 13, 2007; minimum gage height, less than 5.91 ft, Aug. 24 to Sept. 28, 2005 (water level below gage orifice).

03061435 HIBBS RUN NEAR MANNINGTON, WV

Monongahela Basin
Upper Monongahela Subbasin

LOCATION.--Lat 39°32'35", long 80°23'25" referenced to North American Datum of 1927, Marion County, WV, Hydrologic Unit 05020003, on right upstream wingwall of bridge on Secondary State Route 5, 2.3 mi northwest of Mannington, and 275 ft upstream from mouth.

DRAINAGE AREA.--1.42 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1977 to September 1979 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 899.48 ft above NAVD 88 (VERTCON conversion of 900 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1978 - 1979		
Highest daily mean	45	Dec 9, 1978
Lowest daily mean	0.03	Sep 11, 1978
Annual seven-day minimum	0.06	Oct 6, 1978
Maximum peak stage (ft)	^a 7.63	Jan 26, 1978
Instantaneous low flow	0.02	Oct 4, 1978
10 percent duration	6.7	
50 percent duration	1.1	
90 percent duration	0.15	

^a From floodmark, backwater from Dents Run, discharge not determined.

03061495 DAVY RUN AT KATY, WV

Monongahela Basin
Upper Monongahela Subbasin

LOCATION.--Lat 39°30'38", long 80°12'51" referenced to North American Datum of 1927, Marion County, WV, Hydrologic Unit 05020003, on left downstream wingwall of bridge on Secondary State Route 250/32, 2.5 mi west of Barrackville, and 300 ft upstream from mouth.

DRAINAGE AREA.--1.76 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1977 to September 1979 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 919.47 ft above NAVD 88 (VERTCON conversion of 920 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

	Water Years 1978 - 1979	
Highest daily mean	69	Jan 26, 1978
Lowest daily mean	0.19	Oct 10, 1978
Annual seven-day minimum	0.22	Oct 6, 1978
Maximum peak stage (ft)	^a 11.23	Jul 3, 1978
Instantaneous low flow	0.19	Oct 9, 1978 ^b
10 percent duration	7.2	
50 percent duration	1.7	
90 percent duration	0.38	

^a From floodmark, backwater from Buffalo Creek, discharge not determined.

^b Also Oct. 10-13, and Nov. 13, 14, 1978.

03061500 BUFFALO CREEK AT BARRACKVILLE, WV

Monongahela Basin
Upper Monongahela Subbasin

LOCATION.--Lat 39°30'14", long 80°10'20" referenced to North American Datum of 1927, Marion County, WV, Hydrologic Unit 05020003, on right downstream concrete and steel beam retaining wall 50 ft above highway bridge at Barrackville, 300 ft upstream from Finchs Run, and at mile 4.4.

DRAINAGE AREA.--116 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1907 to December 1908, May 1915 to May 1924, and August 1932 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 783: 1917(M). WSP 1335: 1916(M), 1918-20(M), 1921, 1922(M), 1924(M), 1933(M), 1940. WDR WV-97-1: Drainage area. WDR WV-04-1: 2001(M), 2002(M), 2003(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 882.42 ft above COE 12. Prior to Oct. 1, 2000, water-stage recorder at site 0.2 mi upstream at same datum. Prior to Dec. 6, 1940, nonrecording gage 0.2 mi upstream. Prior to June 4, 1943, at datum 1.98 ft higher. Datums published in error, Oct. 1985 to Sept. 1990.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow from 5.2 mi² is partially controlled, but not diverted, by three floodwater-detention reservoirs. Some additional regulation at low flow from mine pumpage above station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1912 reached a stage of about 18 ft, at site 0.2 mi upstream at present datum, discharge, 11,600 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1907 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	48.1	114	215	284	303	353	250	195	110	67.1	55.7	46.6
Max	262	530	696	944	690	795	658	543	476	381	357	285
(WY)	(1990)	(1986)	(1991)	(1937)	(1994)	(1963)	(1948)	(1968)	(1981)	(1978)	(1980)	(1990)
Min	0.00	0.00	9.53	25.2	32.8	71.9	53.3	17.8	6.69	2.44	2.24	0.01
(WY)	(1909)	(1909)	(1999)	(1967)	(1934)	(1969)	(1971)	(1934)	(1936)	(1966)	(1938)	(1908)

DISCHARGE SUMMARY STATISTICS		
Water Years 1907 - 2008		
Annual mean	169	
Highest annual mean	280	1994
Lowest annual mean	80.3	1969
Highest daily mean	5,710	Apr 12, 1948
Lowest daily mean	0.00	Aug 13, 1908 ^a
Annual seven-day minimum	0.00	Sep 4, 1908
Maximum peak flow	10,400	Feb 19, 2000 (^b 16.76 ft stage)
Instantaneous low flow	0.00	Aug 1, 1908 ^c
Annual runoff (cfsm)	1.46	
Annual runoff (inches)	19.81	
10 percent duration	402	
50 percent duration	60	
90 percent duration	5.7	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	0.60	
7 day 10 yr low flow	0.98	
30 day 5 yr low flow	2.70	
1 day 3 yr bio-based low flow	0.57	
4 day 3 yr bio-based low flow	0.69	
10 percent duration	415	
50 percent duration	60.0	
90 percent duration	5.4	
EPA harmonic mean	13.1	

^a Also Aug. 14-17, Sept. 4-28, Sept. 30 to Dec. 6, 1908.

^b From floodmarks.

^c Greater part of period August to December 1908.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1979 to September 1981.

WATER TEMPERATURE: June 1979 to September 1981.

SUSPENDED SEDIMENT RECORDS: June 1979 to September 1981.

INSTRUMENTATION.--Suspended-sediment samples were taken once daily by an observer and hourly by automatic sampler on rises.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,300 microsiemens, Sept. 29, 1981; minimum daily, 108 microsiemens, June 6, 1981.

WATER TEMPERATURE: Maximum daily, 25.0°C, July 17, 21, Aug. 10, 1980; minimum daily, 1.0°C, Feb. 5, 29, 1980, Jan. 2, 11, 12, 30, Feb. 4, 7, 13, 1981.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,540 mg/L, Aug. 18, 1980; minimum daily mean, 0 mg/L, Dec. 11, 20, 30, 1979.

SEDIMENT LOAD: Maximum daily, 28,600 tons, Aug. 18, 1980; minimum daily, 0 tons, Dec. 11, 20, 30, 1979.

03062000 MONONGAHELA RIVER AT LOCK 15, AT HOULT, WV

Monongahela Basin
Upper Monongahela Subbasin

LOCATION.--Lat 39°30'25", long 80°07'50" referenced to North American Datum of 1927, Marion County, WV, Hydrologic Unit 05020003, on right bank above spillway of dam at Lock 15, 0.75 mi downstream from Buffalo Creek, 2.5 miles downstream from Fairmont, 4 mi downstream from confluence of Tygart Valley and West Fork Rivers, and at mile 124.2.

DRAINAGE AREA.—2,388 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1915 to September 1926, October 1938 to September 1967 (daily discharge and annual maxima).

GAGE.--Water-stage recorder. Datum of gage is 849.58 ft above NGVD 1907. Prior to Sept. 30, 1926, staff gage at same site and datum.

REMARKS.-- Water-discharge records in ft³/s, stage readings in ft. Records subsequent to October 1938 below 800 ft³/s do not include lockage or leakage through lock gates and valves, both of which are usually a very small percentage of total flow. Flow partly regulated by Tygart Dam.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--40 years, 4,066 ft³/s (unadjusted).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1888, before Lock 15 was built, reached about 26 ft gage height.

DISCHARGE SUMMARY STATISTICS		
Water Years 1915 - 1967		
Highest daily mean	80,200	Jan 22, 1917
Lowest daily mean	33	Sep 27, 1917
Annual seven-day minimum	41	Oct 14, 1923
Maximum peak flow	^a 91,500	Jan 2, 1919 (21.20 ft stage)
10 percent duration	10,600	
50 percent duration	2,010	
90 percent duration	475	

^a From rating curve extended above 50,000 ft³/s.

03062213 STEWART RUN AT CROWN, WV

Monongahela Basin
Upper Monongahela Subbasin

LOCATION.--Lat 39°34'55", long 80°06'17" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020003, on right bank at site 200 ft upstream from mouth, at Crown.

DRAINAGE AREA.--2.43 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1977 to September 1979 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 959.54 ft above NAVD 88 (VERTCON conversion of 960 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1978 - 1979		
Highest daily mean	96	Jan 26, 1978
Lowest daily mean	0.21	Aug 4, 1979
Annual seven-day minimum	0.24	Aug 1, 1979
Maximum peak flow	303	Mar 5, 1979 (5.32 ft stage)
Instantaneous low flow	0.20	Sep 11, 1978
10 percent duration	8.6	
50 percent duration	1.9	
90 percent duration	0.50	

03062215 INDIAN CREEK AT CROWN, WV

Monongahela Basin
Upper Monongahela Subbasin

LOCATION.--Lat 39°34'36", long 80°05'50" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020003, on right upstream wingwall of U.S. Route 19 bridge, 3.7 mi north of Rivesville, and at mile 2.5.

DRAINAGE AREA.--11.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1977 to September 1980 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 954.53 ft above NAVD 88 (VERTCON conversion of 955 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Some regulation at low flow from mine pumpage above station.

DISCHARGE SUMMARY STATISTICS		
	Water Years 1978 - 1980	
Highest daily mean	1,700	Aug 18, 1980
Lowest daily mean	1.3	Aug 6, 1980
Annual seven-day minimum	1.5	Sep 27, 1978
Maximum peak flow	^a 4,500	Aug 18, 1980 (12.40 ft stage)
Instantaneous low flow	0.90	Aug 6, 1980
10 percent duration	53	
50 percent duration	10	
90 percent duration	2.8	

^a From rating curve extended above 500 ft³/s on basis of slope-area measurement of peak flow.

03062400 COBUN CREEK AT MORGANTOWN, WV

Monongahela Basin
Upper Monongahela Subbasin

LOCATION.--Lat 39°36'29", long 79°57'19" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020003, on left bank at Morgantown, 30 ft upstream from concrete box culvert on Greenbag Road, and at mile 1.4.

DRAINAGE AREA.--11.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1965 to September 1994 (daily discharge and peaks), October 1994 to September 1997 (annual maxima), October 1997 to September 2002 (daily discharge and peaks).

REVISED RECORDS.--WRD WV-99-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is approximately 889.60 ft above NAVD 88 (VERTCON conversion of 890 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1965 - 2002, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5.16	11.8	21.5	23.1	28.6	31.0	26.3	19.4	11.0	7.61	5.83	3.72
Max	31.1	47.8	56.5	48.4	63.8	69.4	46.0	46.1	48.1	27.5	61.0	20.1
(WY)	(1980)	(1986)	(1991)	(1974)	(1986)	(1967)	(1970)	(1968)	(1972)	(1978)	(1980)	(1971)
Min	0.02	0.63	0.94	4.62	6.62	6.95	7.41	2.61	0.26	0.03	0.00	0.01
(WY)	(1992)	(1970)	(1966)	(1967)	(1978)	(1987)	(1971)	(1982)	(1991)	(1966)	(1991)	(1985)

DISCHARGE SUMMARY STATISTICS

Water Years 1965 - 2002	
Annual mean	16.3
Highest annual mean	24.1 1980
Lowest annual mean	7.75 1966
Highest daily mean	1,200 Aug 18, 1980
Lowest daily mean	0.00 (a)
Annual seven-day minimum	0.00 Jun 30, 1965
Maximum peak flow	^b 3,100 Aug 18, 1980 (^c 19.94 ft stage)
Instantaneous low flow	0.00 (a)
Annual runoff (cfsm)	1.48
Annual runoff (inches)	20.11
10 percent duration	39
50 percent duration	8.1
90 percent duration	0.31

^a Most years.

^b From rating curve extended above 800 ft³/s on basis of culvert rating computation and flow over road measurement of peak flow.

^c From floodmarks.

03062450 MONONGAHELA RIVER AT MORGANTOWN LOCK & DAM (LOWER), WV

Monongahela Basin
Upper Monongahela Subbasin

LOCATION.--Lat 39°37'12", long 79°58'09" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020003, at Morgantown, and at mile 102.0.

DRAINAGE AREA.--2,579 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 2005 to September 2008 (annual maximum and minimum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 787.61 ft above NAVD 88 (VERTCON conversion of 788.00 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 21.05 ft, Dec. 13, 2007; minimum, 7.66 ft, May 26, 2007.

03062500 DECKERS CREEK AT MORGANTOWN, WV

Monongahela Basin
Upper Monongahela Subbasin

LOCATION.--Lat 39°37'45", long 79°57'10" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020003, on left bank at Kingwood Street, in Morgantown, and at mile 0.6.

DRAINAGE AREA.--63.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1914 to September 1915 (gage height), February 1946 to September 1969 (daily discharge and peaks), October 1992 to September 1998 (annual maxima), October 2002 to September 2008 (daily discharge and peaks).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is approximately 819.61 ft above NAVD 88 (VERTCON conversion of 820 ft above NGVD 29, from topographic map). Prior to Dec. 4, 1914, nonrecording gage on bridge 0.5 mile upstream at different datum. Dec. 4, 1914, to Sept. 30, 1915, nonrecording gage on bridge 0.9 mile upstream at different datum. Feb. 8 to May 7, 1946, nonrecording gage, and May 8, 1946, to June 19, 1956, water-stage recorder at site 150 ft downstream at present datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 23, 1972, reached a stage of 9.40 ft, discharge, 5,000 ft³/s. Flood of Aug. 18, 1980, reached a stage of 12.36 ft, from floodmarks, discharge 7,550 ft³/s, highest since 1947.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	25.4	68.0	138	176	177	212	153	119	71.2	49.6	44.7	26.0
Max	155	279	334	337	337	474	353	279	254	201	309	294
(WY)	(1955)	(2004)	(2008)	(1952)	(1956)	(1963)	(1948)	(1968)	(2003)	(2003)	(1956)	(2003)
Min	1.27	1.85	11.2	32.4	53.5	56.8	52.3	23.6	9.23	2.89	2.42	1.97
(WY)	(1954)	(1954)	(1954)	(1967)	(1954)	(1969)	(1963)	(1962)	(1959)	(1966)	(1953)	(1953)

DISCHARGE SUMMARY STATISTICS

Water Years 1946 - 2008	
Annual mean	105
Highest annual mean	193 2003
Lowest annual mean	54.8 1966
Highest daily mean	2,740 Aug 6, 1956
Lowest daily mean	0.30 Sep 3, 1966
Annual seven-day minimum	0.60 Sep 6, 1964
Maximum peak flow	5,680 Aug 5, 1956 (10.12 ft stage)
Annual runoff (cfsm)	1.67
Annual runoff (inches)	22.63
10 percent duration	255
50 percent duration	52
90 percent duration	5.0

03063500 GANDY CREEK AT HORTON, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°48'00", long 79°32'45" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, just downstream from Two Springs Run, at railroad bridge, and 0.5 mi upstream from Horton.

DRAINAGE AREA.--36.0 mi², (determined by West Virginia Power & Transmission Company).

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1924 to September 1926 (daily discharge).

GAGE.--Staff gage. Datum of gage is approximately 3,829.66 ft above NAVD 88 (VERTCON conversion of 3,830 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
	Water Years 1924 - 1926	
Highest daily mean	462	Sep 30, 1924
Lowest daily mean	3.0	Aug 30, 1925
Annual seven-day minimum	3.6	Sep 7, 1925
Maximum peak flow	^a 550	Sep 30, 1924 (2.70 ft stage)
Instantaneous low flow	3.0	Sep 11-13, 1925
10 percent duration	163	
50 percent duration	44	
90 percent duration	9.0	

^a From rating curve extended above 180 ft³/s.

03063600 HORSECAMP RUN AT HARMAN, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°54'51", long 79°30'32" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, on right bank 1.0 mi southeast of Harman, and at mile 1.1.

DRAINAGE AREA.--6.57 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1969 to September 1977 (daily discharge and peaks).

GAGE.--Water-stage and rainfall recorders. Datum of gage is 2,510.46 ft above NAVD 88 (VERTCON conversion of 2,510.93 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 9, 1985, reached a stage of 17.80 ft, discharge 2,350 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1969 - 1977		
Annual mean	9.99	
Highest daily mean	168	Oct 9, 1976
Lowest daily mean	0.00	Aug 4, 1973
Annual seven-day minimum	0.05	Jul 30, 1973
Maximum peak flow	^a 760	Dec 26, 1973 (^b 5.60 ft stage)
Instantaneous low flow	0.00	Jul 31, 1973 ^c
10 percent duration	25	
50 percent duration	3.7	
90 percent duration	0.48	

^a From rating curve extended above 120 ft³/s on basis of step-backwater method.

^b From floodmark.

^c Also Aug. 1, 3-6, 9-11, 1973.

03063950 JOB RUN NEAR WYMER, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°52'55", long 79°35'45" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, at culvert on U.S. Highway 33, 0.1 mi upstream from mouth, and 1.2 mi southeast of Wymer.

DRAINAGE AREA.--1.08 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1975, October 1976 to September 1979 (annual maximum discharge), October 1970 to September 1971 (annual maxima), October 1971 to September 1973 (annual maximum discharge), October 1973 to September 1974 (annual maxima), October 1974 to September 1975 (annual maximum discharge), October 1976 to September 1977 (annual maxima). Water years 1965-70, 1972, 1973, and 1975 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480 ft³/s, Sept. 12, 1971, gage height, 10.40 ft.

03064000 LAUREL FORK AT WYMER, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°52'55", long 79°36'05" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, 30 ft upstream from highway bridge at Wymer, and 0.3 mi downstream from Job Run.

DRAINAGE AREA.--46.3 mi², (determined by West Virginia Power & Transmission Company).

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1924 to September 1926 (daily discharge).

GAGE.--Staff gage. Datum of gage is approximately 2,769.58 ft above NAVD 88 (VERTCON conversion of 2,770 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1924 - 1926		
Highest daily mean	680	Mar 19, 1925
Lowest daily mean	1.0	Aug 28, 1925
Annual seven-day minimum	1.3	Aug 26, 1925
Maximum peak flow	^a 1,100	Oct 25, 1925 (3.30 ft stage)
Instantaneous low flow	^b 1.0	Aug 28, 1925
10 percent duration	208	
50 percent duration	50	
90 percent duration	10	

^a From rating curve extended above 240 ft³/s.

^b Also Aug. 29 to Sept. 1, 1925.

03064500 GLADY FORK AT EVENWOOD, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°53'45", long 79°38'52" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, at highway bridge at Evenwood, 0.3 mi downstream from Flannigan Run.

DRAINAGE AREA.--41.0 mi², (determined by West Virginia Power & Transmission Company).

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1924 to September 1926 (daily discharge).

GAGE.--Staff gage. Datum of gage is approximately 2,619.55 ft above NAVD 88 (VERTCON conversion of 2,620 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1924 - 1926		
Highest daily mean	700	Aug 20, 1926
Lowest daily mean	1.0	Aug 28, 1925
Annual seven-day minimum	1.4	Aug 26, 1925
Maximum peak flow	^a 1,010	Oct 25, 1925 (3.10 ft stage)
Instantaneous low flow	0.80	Aug 30, 31, 1925
10 percent duration	212	
50 percent duration	51	
90 percent duration	8.0	

^a From rating curve extended above 250 ft³/s.

03065000 DRY FORK AT HENDRICKS, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°04'20", long 79°37'23" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, on right bank at Hendricks, and at mile 0.4.

DRAINAGE AREA.--349 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1940 to September 1993 (daily discharge and peaks), October 1993 to September 1995 (daily mean gage height and annual maxima), October 1995 to September 2008 (daily discharge and peaks). Published as Dry Fork River at Hendricks water years 1949-52.

REVISED RECORDS.--WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,699.26 ft above NAVD 88 (1,699.70 ft above NGVD 29, 1,698.76 ft above COE 12). Prior to Dec. 21, 1941, nonrecording gage at same site and datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1941 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	366	683	952	1,035	1,186	1,553	1,220	936	553	396	330	267
Max	1,704	4,165	2,224	2,545	2,688	3,736	2,914	3,543	1,737	1,796	1,266	1,316
(WY)	(1977)	(1986)	(1973)	(1996)	(1956)	(1963)	(1958)	(1996)	(1974)	(1996)	(1956)	(1996)
Min	13.8	35.0	242	174	227	579	373	236	67.3	32.1	23.7	11.6
(WY)	(1954)	(1954)	(2002)	(1977)	(1978)	(2006)	(1946)	(1970)	(1991)	(1993)	(1957)	(1946)

DISCHARGE SUMMARY STATISTICS	
Water Years 1941 - 2008	
Annual mean	787
Highest annual mean	1,435 1996
Lowest annual mean	510 1959
Highest daily mean	34,000 Nov 5, 1985
Lowest daily mean	2.4 Sep 1, 2, 1993
Annual seven-day minimum	3.5 Aug 28, 1993
Maximum peak flow	^a 100,000 Nov 5, 1985 (^b 20.74 ft stage)
Instantaneous low flow	2.2 Sep 1, 1993
Annual runoff (cfsm)	2.26
Annual runoff (inches)	30.65
10 percent duration	1,820
50 percent duration	436
90 percent duration	65
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	9.29
7 day 10 yr low flow	11.2
30 day 5 yr low flow	28.1
1 day 3 yr bio-based low flow	7.09
4 day 3 yr bio-based low flow	9.13
10 percent duration	1,800
50 percent duration	424
90 percent duration	64.3
EPA harmonic mean	148

^a From rating curve extended above 47,000 ft³/s on basis of slope-area measurement of peak flow, highest since 1888.

^b From floodmarks.

03065050 BLACKWATER RIVER AT CANAAN VALLEY STATE PARK, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°02'22", long 79°27'20" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, on right bank 0.6 mi east of West Virginia Route 32, 2.4 mi southwest of Courtland, 2 mi upstream from Freeland Run, and at mile 30.9.

DRAINAGE AREA.--9.48 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January to September 1992 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 3,209.62 ft above NAVD 88 (VERTCON conversion of 3,210 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 216 ft³/s, July 27, 1992.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1992 - 1992, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	---	---	---	---	41.4	45.3	31.8	17.1	5.04	14.3	11.9	2.45
Max	---	---	---	---	41.4	45.3	31.8	17.1	5.04	14.3	11.9	2.45
(WY)	(---	(---	(---	(---	(1992)	(1992)	(1992)	(1992)	(1992)	(1992)	(1992)	(1992)
Min	---	---	---	---	41.4	45.3	31.8	17.1	5.04	14.3	11.9	2.45
(WY)	(---	(---	(---	(---	(1992)	(1992)	(1992)	(1992)	(1992)	(1992)	(1992)	(1992)

03065200 BLACKWATER RIVER AT CORTLAND, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°03'51", long 79°24'49" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, on left bank 2.5 mi east of Courtland, 0.1 mi downstream from Yoakum Run, and at mile 24.3.

DRAINAGE AREA.--18.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1991 to September 1993, June to September 2001 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 3,149.70 ft above NAVD 88 (VERTCON conversion of 3,150 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1992 - 2001, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	4.23	14.3	76.9	46.5	51.8	110	88.1	29.0	12.0	16.8	12.5	9.55
Max	5.39	14.5	81.6	52.2	81.2	139	119	35.0	12.0	23.4	21.7	23.4
(WY)	(1992)	(1992)	(1992)	(1992)	(1992)	(1993)	(1993)	(1992)	(1993)	(2001)	(1992)	(1993)
Min	3.06	14.2	72.3	40.8	21.3	82.0	56.9	23.1	11.9	3.96	3.29	0.00
(WY)	(1993)	(1993)	(1993)	(1993)	(1993)	(1992)	(1992)	(1993)	(1992)	(1993)	(1993)	(2001)

DISCHARGE SUMMARY STATISTICS

Water Years 1992 - 2001		
Annual mean	39.5	
Highest annual mean	39.7	1993
Lowest annual mean	39.2	1992
Highest daily mean	457	Mar 26, 1993
Lowest daily mean	0.00	Jun 28, 2001
Annual seven-day minimum	0.00	Aug 15, 2001
Annual runoff (cfsm)	2.13	
Annual runoff (inches)	28.98	
10 percent duration	96	
50 percent duration	17	
90 percent duration	3.2	

03065400 BLACKWATER RIVER NEAR DAVIS, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°08'24", long 79°25'12" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, on right bank, 2.8 mi northeast of Davis, 0.5 mi upstream from Yellow Creek, and at mile 14.0.

DRAINAGE AREA.--54.7 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1991 to September 1998, June to September 2001, and October 2002 to September 2008 (daily discharge and annual maxima).

REVISED RECORDS.--WDR WV-97-1: Drainage area. WDR WV-04-1: 1993(M), 1994(P), 1995(M). WDR-US-2008: 1994.

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is approximately 3,129.70 ft above NAVD 88 (VERTCON conversion of 3,130 ft above NGVD 29, from topographic map).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1992 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	65.1	140	181	203	227	308	191	175	102	96.2	76.3	67.3
Max	157	234	244	378	474	461	350	406	254	236	211	284
(WY)	(2007)	(2004)	(1997)	(1996)	(1994)	(2003)	(1993)	(1996)	(2008)	(2001)	(1996)	(2003)
Min	9.93	30.8	81.9	110	69.5	108	88.5	65.5	29.1	9.48	7.10	9.24
(WY)	(1995)	(1992)	(2007)	(2003)	(1993)	(2006)	(1995)	(1993)	(1994)	(1993)	(1993)	(2005)

DISCHARGE SUMMARY STATISTICS

	Water Years 1992 - 2008	
Annual mean	155	
Highest annual mean	220	1996
Lowest annual mean	101	1995
Highest daily mean	^e 3,500	Jan 19, 1996
Lowest daily mean	4.0	Aug 30, 1993
Annual seven-day minimum	4.9	Aug 28, 1993
Maximum peak flow	3,710	Jan 19, 1996 (^a 10.51 ft stage)
Instantaneous low flow	4.0	Jul 25, 1993 ^b
Annual runoff (cfsm)	2.83	
Annual runoff (inches)	38.40	
10 percent duration	367	
50 percent duration	96	
90 percent duration	15	

^e Estimated.

^a From floodmarks.

^b Also July 26, Aug. 29-31, 1993.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1994 to July 1997, June to September 2001.

pH: October 1994 to July 1997, June to September 2001.

WATER TEMPERATURE: October 1994 to July 1997, June to September 2001.

DISSOLVED OXYGEN: October 1994 to July 1997, June to September 2001.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 132 microsiemens, Oct. 29, 30, 1994; minimum recorded, 16 microsiemens, Sept. 6, 7, 1996.

pH: Maximum recorded, 7.9 units, Aug. 2, 3, 4, 1995, June. 25, 1997; minimum recorded, 5.1 units, Sept. 6, 1996.

WATER TEMPERATURE: Maximum recorded, 31.0°C, July 15, 1995; minimum recorded, -0.4°C, Jan. 7, 8, 1997.

DISSOLVED OXYGEN: Maximum recorded, 13.9 mg/L, Jan. 7, 1997; minimum recorded, 4.0 mg/L, Aug. 5, 1995.

03065500 BLACKWATER RIVER ABOVE BEAVER CREEK NEAR DAVIS, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°07'55", long 79°26'40" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, about 1.8 mi east of Davis, and 1.5 mi upstream from Beaver Creek.

DRAINAGE AREA.--58.7 mi², at site used prior to Sept. 20, 1930, 59.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1929 to June 1932 (daily discharge).

GAGE.--Staff gage. Datum of gage is approximately 3.099.71 ft above NAVD 88 (VERTCON conversion of 3,100 ft above NGVD 29, from topographic map). Prior to Sept. 20, 1930, at site about 0.8 mi downstream at different datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

REVISED RECORDS.--Discharge records for 1929 to 1931 as published in WSP 1305 were revised but not republished. According to file notes dated 7/17/37, "The revision is mostly due to revised drainage area but during several months of 1930 the daily discharge has been revised also."

DISCHARGE SUMMARY STATISTICS		
Water Years 1929 - 1932		
Highest daily mean	1,430	Feb 5, 1932
Lowest daily mean	2.0	Mar 9, 1931
Annual seven-day minimum	2.4	Mar 7, 1931
Maximum peak flow	1,640	Feb 5, 1932 (^a 5.00 ft stage)
Instantaneous low flow	2.0	Mar 9-13, 1931
10 percent duration	219	
50 percent duration	34	
90 percent duration	4.0	

^a From graph based on gage readings.

03066000 BLACKWATER RIVER AT DAVIS, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°07'37", long 79°28'07" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, on right bank 0.4 mi southwest of Davis, 0.5 mi downstream from Beaver Creek, and at mile 11.1.

DRAINAGE AREA.--85.9 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1921 to September 2008 (daily discharge and peaks). Records prior to May 17, 1942 provided by West Virginia Power and Transmission Company.

REVISED RECORDS.--WSP 583: 1921-23. WSP 1173: 1931-34(M,m). WSP 1305: 1928(M), 1932-37(M), 1939-41(M), 1944-48(M). WDR WV-97-1: Drainage area. WDR-US-2008: 1922(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 3,058.56 ft above NAVD 88 (VERTCON conversion of 3,058.87 ft above NGVD 29, levels by West Virginia Power and Transmission Company). Prior to Dec. 18, 1952, nonrecording gage at site 60 ft downstream at same datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1921 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	108	173	245	272	319	393	298	224	146	109	101	77.1
Max	510	990	615	634	773	1,125	766	640	507	408	478	503
(WY)	(1977)	(1986)	(1973)	(1952)	(1994)	(1963)	(1958)	(1996)	(1981)	(1996)	(1956)	(2003)
Min	4.31	6.73	45.7	44.5	52.4	127	74.7	47.4	23.2	14.2	7.19	5.23
(WY)	(1954)	(1931)	(1999)	(1977)	(1978)	(1990)	(1946)	(1930)	(1999)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS		
Water Years 1921 - 2008		
Annual mean	205	
Highest annual mean	362	1996
Lowest annual mean	125	1959
Highest daily mean	9,470	Nov 5, 1985
Lowest daily mean	1.6	Sep 11, 1959
Annual seven-day minimum	2.4	Oct 1, 1953
Maximum peak flow	^a 12,500	Nov 5, 1985 (^b 17.67 ft stage)
Instantaneous low flow	^c 1.5	Sep 11, 12, 1959
Annual runoff (cfsm)	2.38	
Annual runoff (inches)	32.29	
10 percent duration	482	
50 percent duration	114	
90 percent duration	19	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	3.66	
7 day 10 yr low flow	4.79	
30 day 5 yr low flow	9.87	
1 day 3 yr bio-based low flow	3.35	
4 day 3 yr bio-based low flow	3.78	
10 percent duration	479	
50 percent duration	110	
90 percent duration	18.3	
EPA harmonic mean	45.8	

^a From rating curve extended above 7,000 ft³/s, highest since 1888.

^b From floodmarks.

^c Caused by filling small water-supply pool about 1.0 mi upstream.

03066630 TUB RUN NEAR DOUGLAS, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°06'53", long 79°33'00" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, on left bank 1.9 mi southwest of Douglas, 1.2 mi upstream from Forest Service Road #18, and at mile 1.4.

DRAINAGE AREA.--1.17 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1980 to July 1984 (daily discharge).

GAGE.--Water-stage and rainfall recorders. Datum of gage is approximately 3,150 ft above NGVD 29 (from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1980 - 1984		
Highest daily mean	43	Jun 6, 1981
Lowest daily mean	0.00	Sep 10, 1980
Annual seven-day minimum	0.00	Aug 22, 1981
Maximum peak flow	^a 172	Jun 6, 1981 (4.21 ft stage)
Instantaneous low flow	0.00	(b)
10 percent duration	5.3	
50 percent duration	0.95	
90 percent duration	0.08	

^a From rating curve extended above 7.0 ft³/s on basis of runoff comparison with nearby station.

^b No flow all or part of each day Sept. 10-21, 1980; July 12, 17-19, Aug. 22-31, 1981; May 17-20, July 27, Sept. 18, 1982; July 15-17, 1983.

03066720 BIG RUN NEAR DOUGLAS, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°06'44", long 79°34'22" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, on left bank, 10 ft downstream from culvert on U.S. Forest Service Road No. 18, 3.1 mi south southwest of Douglas, and at mile 1.6.

DRAINAGE AREA.--1.30 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1980 to September 1982 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 3,169.60 ft above NAVD 88 (VERTCON conversion of 3,170 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1980 - 1983		
Highest daily mean	46	Jun 6, 1981
Lowest daily mean	0.08	Aug 30, 1981
Annual seven-day minimum	0.13	Aug 25, 1981
Maximum peak flow	^a 190	Jun 6, 1981 (4.70 ft stage)
Instantaneous low flow	0.06	Aug 30, 31, 1981
10 percent duration	11	
50 percent duration	1.9	
90 percent duration	0.64	

^a From floodmark, from rating curve extended above 14 ft³/s on basis of culvert computation and flow-over-road measurement of peak flow.

03066730 WEST FORK BIG RUN NEAR DOUGLAS, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°06'55", long 79°34'47" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, on left bank, 3.5 mi west-southwest of Douglas, and at mile 0.4.

DRAINAGE AREA.--1.07 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1980 to September 1982 (daily discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is approximately 3,204.59 ft above NAVD 88 (VERTCON conversion of 3,205 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
	Water Years 1980 - 1982	
Highest daily mean	48	Jun 6, 1981
Lowest daily mean	0.08	Aug 30, 1981
Annual seven-day minimum	0.11	Aug 25, 1981
Maximum peak flow	^a 123	Jun 6, 1981 (3.59 ft stage)
Instantaneous low flow	0.07	Aug 30, 1981
10 percent duration	8.4	
50 percent duration	1.8	
90 percent duration	0.37	

^a From rating curve extended above 10 ft³/s on basis of runoff comparisons with nearby stations.

03067100 FERNOW WATERSHED 4 NEAR HENDRICKS, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°03'14.3", long 79°41'13.7" referenced to North American Datum of 1983, Tucker County, WV, Hydrologic Unit 05020004, in Fernow Experimental Forest.

DRAINAGE AREA.--0.15 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1951 to September 2005 (annual maximum discharge, records provided by U.S. Forest Service).

GAGE.--Elevation of gage is approximately 2,424.48 ft above NAVD 88 (VERTCON conversion of 2,425 ft above NGVD 29, from topographic map).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25.4 ft³/s, November 1985.

03067500 SHAVERS FORK AT CHEAT BRIDGE, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°36'40", long 79°52'30" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, on right upstream side of old steel truss bridge at Cheat Bridge, 35 mi south of Elkins, 1.8 mi upstream from Real Run, 1.3 mi downstream from Fish Hatchery Run, 0.5 mi upstream from US Route 250 highway bridge, and at mile 66.0.

DRAINAGE AREA.--57.6 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1921 to September 1926 (annual maxima, records furnished by West Virginia Power and Transmission Company and published in WSP 1675, October 1992 to September 2008 (annual maxima).

REVISED RECORDS.--WDR WV-2003-1: 1999-2002(M). WDR WV-2005-1: 1999(M).

GAGE.--Crest-stage and wire weight gage. Datum of gage is 3,542.93 ft above NAVD 88 (VERTCON conversion of 3,542.93 ft above NGVD 29). Prior to April 1993, wire weight gage at same site and datum.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,190 ft³/s, Nov. 19, 2003, gage height, 12.60 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 22, 1896 reached a stage of 14 ft, discharge, 11,000 ft³/s, record furnished by West Virginia Power and Transmission Company and published in WSP 1675.

03067510 SHAVERS FORK NEAR CHEAT BRIDGE, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°37'01", long 79°52'12" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, on left downstream wingwall of US Route 250 bridge at Cheat Bridge, 1.8 mi downstream from Fish Hatchery Run, 1.3 mi upstream from Red Run, and at mile 65.5.

DRAINAGE AREA.--60.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2001 to September 2008 (daily discharge and peaks).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 3,537.56 ft above NAVD 88 (3,537.76 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 2002 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	110	212	192	208	178	366	306	234	137	116	44.3	114
Max	218	365	367	335	285	523	386	371	321	213	73.6	299
(WY)	(2003)	(2004)	(2008)	(2006)	(2003)	(2003)	(2004)	(2008)	(2003)	(2002)	(2003)	(2004)
Min	12.4	13.9	66.8	138	105	128	202	101	38.5	46.0	19.2	10.4
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2006)	(2008)	(2006)	(2005)	(2004)	(2006)	(2008)

DISCHARGE SUMMARY STATISTICS		
Water Years 2002 - 2008		
Annual mean	185	
Highest annual mean	253	2003
Lowest annual mean	139	2002
Highest daily mean	3,040	Nov 19, 2003
Lowest daily mean	4.2	Sep 13, 2002
Annual seven-day minimum	5.3	Sep 9, 2002
Maximum peak flow	7,600	Nov 19, 2003 (15.57 ft stage)
Instantaneous low flow	4.1	Sep 13, 14, 2002
Annual runoff (cfsm)	3.07	
Annual runoff (inches)	41.75	
10 percent duration	395	
50 percent duration	110	
90 percent duration	19	

03068000 SHAVERS FORK AT BEMIS, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°48'27", long 79°44'16" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, on right bank at downstream side of bridge on State Secondary Route 22, at Bemis, 0.6 mi upstream from Fishing Hawk Creek, and at mile 39.9.

DRAINAGE AREA.--115 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1922 to December 1925 (daily discharge), October 1973 to September 1979 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-79-1: 1978(P).

GAGE.--Water-stage recorder. datum of gage is 2,573.63 ft above NAVD 88 (VERTCON Conversion of 2,574.06 ft above NGVD 29). Feb. 17, 1922 to Dec. 31, 1925, nonrecording gage on downstream side of bridge at datum 2.18 ft lower.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--9 years, 342 ft³/s, 40.39 in/yr.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 13, 1918, reached a stage of about 13.1 ft (2,574.06 ft datum). Flood of July 29, 2001, reached a stage of 7.47 ft, discharge 4,200 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1974 - 1979		
Highest daily mean	6,400	Jun 2, 1974
Lowest daily mean	11	Sep 9, 1976
Annual seven-day minimum	16	Sep 28, 1978
Maximum peak flow	^a 14,600	Jun 2, 1974
Maximum peak stage (ft)	9.62	Jan 26, 1978
Instantaneous low flow	9.5	Sep 9, 10 1976
10 percent duration	750	
50 percent duration	236	
90 percent duration	59	

^a From rating curve extended above 6,100 ft³/s.

03068500 SHAVERS FORK AT FLINT, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°51'00", long 79°43'50" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, at Western Maryland Railway bridge 0.5 mi south of Flint.

DRAINAGE AREA.--124 mi², determined by West Virginia Power & Transmission Company.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1924 to September 1932 (daily discharge and annual maxima).

GAGE.--Water-stage recorder. Datum of gage is 2,407.82 ft above mean sea level (levels by West Virginia Power & Transmission Company).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1925 - 1932		
Annual mean	319	
Highest daily mean	5,320	Feb 4, 1932
Lowest daily mean	1.6	Oct 14, 1930
Annual seven-day minimum	1.8	Oct 10, 1930
Maximum peak flow	8,800	Jun 20, 1928
Maximum peak stage (ft)	9.54	Feb 4, 1932
Instantaneous low flow	1.4	Oct 15, 1930
10 percent duration	740	
50 percent duration	203	
90 percent duration	30	

03068600 SHAVERS FORK ABOVE BOWDEN, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°54'10", long 79°41'41" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, 0.5 mi upstream from Taylor Run, 0.9 mi southeast of Bowden, and at mile 31.5.

DRAINAGE AREA.--138 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1973 to June 1975 (partial record station), July 1975 to September 1976 (daily discharge), October 1976 to September 1980 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is approximately 2,239.55 ft above NAVD 88 (VERTCON conversion of 2,240 ft above NGVD 29, from topographic map). Prior to Oct. 3, 1978, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1975 - 1980		
Annual mean	384	
Highest daily mean	7,130	Oct 9, 1976
Lowest daily mean	18	Sep 9, 1976
Annual seven-day minimum	24	Nov 8, 1978
Maximum peak flow	^c 12,300	Jun 2, 1974
10 percent duration	818	
50 percent duration	230	
90 percent duration	65	

^c Estimated based on runoff comparison to station 03068800 Shavers Fork below Bowden.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: September 1975 to September 1980.

WATER TEMPERATURE: August 1975 to May 1979.

TURBIDITY: July 1975 to September 1980.

SUSPENDED SEDIMENT RECORDS: July 1975 to September 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 94 microsiemens, May 22, 1980; minimum daily, 20 microsiemens, Oct. 7, 17-19, 1978.

WATER TEMPERATURE: Maximum daily, 25.0°C, June 14, 1976; minimum daily, 0.0°C on many days during winter periods.

TURBIDITY: Maximum daily, 100 NTU, July 14, 1978; minimum daily, 0.2 NTU, Mar. 1, 1980 (minimum previously determined to nearest 1 JTU).

SEDIMENT CONCENTRATION: Maximum daily mean, 438 mg/L, Apr. 15, 1980; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 6,170 tons, Mar. 5, 1979; minimum daily, 0 tons on many days.

03068604 TAYLOR RUN NEAR ALPENA, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°55'24", long 79°40'12" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, on left bank 1.9 mi northeast of Bowden Post Office, 0.3 mi northwest of Alpena Gap, and at mile 2.2.

DRAINAGE AREA.--1.06 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1978 to September 1980 (daily discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is approximately 2,749.57 ft above NAVD 88 (VERTCON conversion of 2,750 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1979 - 1980

Highest daily mean	28	Feb 24, 1979
Lowest daily mean	0.10	Oct 1, 3, 1978
Annual seven-day minimum	0.12	Oct 1, 1978
Maximum peak flow	^a 102	Feb 24, 1979 (2.95 ft stage)
Instantaneous low flow	0.10	Oct 1, 3, 1978
10 percent duration	7.0	
50 percent duration	2.4	
90 percent duration	0.60	

^a From rating curve extended above 26 ft³/s.

03068607 STALNAKER RUN NEAR BOWDEN, WVMonongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°55'02", long 79°41'11" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, on right bank 200 ft upstream from mouth, and 0.9 mi northeast of Bowden.

DRAINAGE AREA.--1.55 mi².**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--October 1978 to September 1980 (daily discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is approximately 2,419.57 ft above NAVD 88 (VERTCON conversion of 2,420 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1979 - 1980

Highest daily mean	52	Jul 3, 1980
Lowest daily mean	0.05	Oct 3, 1978
Annual seven-day minimum	0.06	Oct 1, 1978
Maximum peak flow	^a 362	Jul 3, 1980 (4.18 ft stage)
Instantaneous low flow	0.04	Sep 14, 1980
10 percent duration	12	
50 percent duration	3.0	
90 percent duration	0.74	

^a From rating curve extended above 46 ft³/s.

03068610 TAYLOR RUN AT BOWDEN, WVMonongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°54'27", long 79°41'49" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, on upstream side of left abutment of bridge on U.S. Highway 33, 0.7 mi east of Bowden, and at mile 0.09.

DRAINAGE AREA.--5.06 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1973 to September 1982 (daily discharge and peaks), October 1991 to September 1998 (annual maxima).

REVISED RECORDS.--WDR WV-97-1: 1993(M).

GAGE.--Water-stage recorder. Datum of gage is approximately 2,239.55 ft above NAVD 88 (VERTCON conversion of 2,240 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF DAILY DISCHARGE RECORD.--Maximum discharge, 600 ft³/s, July 31, 1996, gage height 8.00 ft.

DISCHARGE SUMMARY STATISTICS	
Water Years 1973 - 1982	
Annual mean	15.3
Highest daily mean	160 Oct 9, 1976
Lowest daily mean	0.34 Aug 30, 1981
Annual seven-day minimum	0.49 Aug 25, 1981
Maximum peak flow	^a 382 Jun 8, 1974 (6.91 ft stage)
Instantaneous low flow	0.31 Aug 30, 1981
10 percent duration	34
50 percent duration	9.2
90 percent duration	2.0

^a From rating curve extended above 160 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1975 to September 1980.

WATER TEMPERATURE: June 1975 to May 1979.

TURBIDITY: June 1975 to September 1980.

SUSPENDED SEDIMENT RECORDS: October 1974 to September 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 150 microsiemens, Sept. 9, 1976; minimum daily, 30 microsiemens, July 29, 1978.

WATER TEMPERATURE: Maximum daily, 22.5°C, Aug. 17, 1978; minimum daily, 0.0°C on many days during January 1977.

TURBIDITY: Maximum daily, 85 NTU, June 27, 1975; minimum daily, 0.3 NTU, Jan. 21, 29, Feb. 20, 27, 1980 (minimum previously determined to nearest 1 JTU).

SEDIMENT CONCENTRATION: Maximum daily mean, 484 mg/L, July 3, 1980; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOAD: Maximum daily, 162 tons, July 3, 1980; minimum daily, 0 tons on many days.

03068690 NORTH SPRING AT BOWDEN, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°54'43", long 79°42'16" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, 100 ft landward from right bank of Shavers Fork, 250 ft upstream from bridge on State Secondary Route 5/12, and 0.4 mi east of Bowden.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--1956-58 (discharge measurements only, published as "Cold Spring, Northbank"), June 1975 to September 1981 (daily discharge).

GAGE.--Base gage: water-stage recorder with 16-inch pipe spring box overflow and 16-inch inlet pipe to Bowden National Fish Hatchery as control. Datum of gage 2,201.55 ft above NAVD 88 (VERTCON conversion of 2,201.99 ft above NGVD 29). Supplementary gage No. 1: water-stage recorder and sharp

crested weir in water tower at fish hatchery. Datum of gage is 2,199.62 ft above NAVD 88. Prior to Nov. 4, 1975, nonrecording gage at same site and datum. Supplementary gage No. 2: water-stage recorder and sharp crested weir installed Oct. 10, 1975, in collecting trough in fish hatchery building. Datum of gage is 2,192.88 ft above NAVD 88.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1975 - 1981		
Annual mean	3.33	
Highest daily mean	^a 6.7	Oct 9, 1976
Lowest daily mean	1.8	Jan 7, 1977
Annual seven-day minimum	1.8	Jan 5, 1977
10 percent duration	4.0	
50 percent duration	3.3	
90 percent duration	2.6	

^a From high-water mark (stage 9.00 ft), backwater from Shavers Fork over spring box.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1976 to September 1981.

TURBIDITY: June 1975 to September 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 11.5°C, Sept. 2-20, 1977; minimum, 8.0°C on many days.

TURBIDITY: Maximum not determined; minimum, 1 NTU on many days.

03068710 SOUTH SPRING AT BOWDEN, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°54'38", long 79°42'22" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, 75 ft upstream from bridge, 400 ft landward from left bank of Shavers Fork on State Secondary Route 5/12, and 0.3 mi east of Bowden.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--1956-58, 1961 (discharge measurements only, published as "Cold Spring, Southbank"), June 1975 to September 1980 (daily discharge).

GAGE.--Water-stage and rainfall recorders, sharp crested weirs, and concrete control. Datum of gage is 2,204.22 ft above NAVD 88 (VERTCON conversion of 2,204.66 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1975 - 1980	
Annual mean	2.22
Highest daily mean	12 Oct 9, 1976
Lowest daily mean	0.68 Feb 14, 1980
Annual seven-day minimum	0.72 Feb 9, 1980
Maximum peak flow	21 Oct 9, 1976 (3.18 ft stage)
Instantaneous low flow	0.68 Feb 14, 15, 1980
10 percent duration	3.5
50 percent duration	1.9
90 percent duration	1.2

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1976 to September 1980.

TURBIDITY: June 1975 to January 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 18.0°C, July 22-24, 1977; minimum, 5.0°C, Feb. 15, 16, 1979.

TURBIDITY: Maximum, not determined; minimum, 1 NTU on many days.

03068800 SHAVERS FORK BELOW BOWDEN, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 38°54'47", long 79°46'14" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020004, on upstream side of right pier of County Route 33/8 bridge, 3.0 mi west of Bowden, and at mile 26.4.

DRAINAGE AREA.--151 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1973 to September 1981, and October 1997 to September 2008 (daily discharge and peaks). Once daily wire-weight gage readings at same site November 1971 to August 1973 are contained in files of Bowden National Fish Hatchery.

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is approximately 2119.52 ft above NAVD 88 (VERTCON conversion of 2,120 ft above NGVD 29, from topographic map).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1973 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	279	408	487	544	534	825	683	533	408	287	186	211
Max	913	973	980	1,095	1,054	1,261	1,162	1,072	978	460	438	724
(WY)	(1977)	(2004)	(2008)	(1999)	(2000)	(2003)	(2002)	(2008)	(1974)	(1980)	(1979)	(2003)
Min	31.6	32.1	177	77.8	121	314	264	201	63.3	43.2	25.8	23.7
(WY)	(2002)	(2002)	(2002)	(1977)	(1978)	(2006)	(1976)	(1977)	(1999)	(1999)	(1999)	(2008)

DISCHARGE SUMMARY STATISTICS

	Water Years 1973 - 2008	
Annual mean	449	
Highest annual mean	637	2003
Lowest annual mean	321	1976
Highest daily mean	9,370	Mar 5, 2008
Lowest daily mean	8.8	Sep 26, 2008
Annual seven-day minimum	11	Sep 22, 2008
Maximum peak flow	^a 22,900	Nov 19, 2003 ^b (12.37 ft stage)
Instantaneous low flow	8.4	Sep 26, 27, 2008
Annual runoff (cfsm)	2.97	
Annual runoff (inches)	40.38	
10 percent duration	970	
50 percent duration	276	
90 percent duration	61	

^a From rating curve extended above 6,700 ft³/s.

^b Also Mar. 5, 2008.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1975 to September 1981.

WATER TEMPERATURE: June 1975 to May 1979.

TURBIDITY: June 1975 to September 1981.

SUSPENDED SEDIMENT RECORDS: June 1975 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 156 microsiemens, Mar. 31, 1976; minimum daily, 24 microsiemens, Mar. 5, 1979.

WATER TEMPERATURE: Maximum daily, 26.0°C, June 23, July 31, Aug. 26, 1975; minimum daily, 0.0°C on many days during winter months.

TURBIDITY: Maximum daily, 140 NTU, Aug. 15, 1975; minimum daily, 0.1 NTU, Dec. 5, 1979 (minimum previously determined to nearest 1 JTU).

SEDIMENT CONCENTRATION: Maximum daily mean, 721 mg/L, Mar. 13, 1977; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOAD: Maximum daily, 16,300 tons, Mar. 13, 1977; minimum daily, 0 tons on many days.

03069000 SHAVERS FORK AT PARSONS, WV

Monongahela Basin

Cheat Subbasin

LOCATION.--Lat 39°05'46", long 79°40'37" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, on right bank at Parsons, 0.7 mi upstream from confluence with Black Fork.

DRAINAGE AREA.--213 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1910 to September 1926 and October 1940 to September 1993 (daily discharge and peaks), October 1993 to September 1994 (annual maxima), October 1994 to September 1995 (annual maximum discharge), October 1995 to September 1996 (annual maxima), October 1996 to September 1999 (annual maximum gage height), October 1999 to September 2001 (annual maxima). Monthly discharge for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 583: 1922. WSP 1335: 1911-12, 1915-17, 1918(M), 1926(M). WSP 1725: 1955. WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,634.31 ft above NAVD 88 (VERTCON conversion of 1,634.87 ft above NGVD 29). Prior to Aug. 25, 1923, nonrecording gage on old highway bridge 800 ft downstream, and Aug. 25, 1923 to Sept. 30, 1926, nonrecording gage on railroad bridge 760 ft downstream at datum 3.0 ft lower. Oct. 4, 1940 to April 4, 1942, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood 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 ft³/s, from rating curve extended above 8,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1911 - 1993, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	305	474	659	728	780	1,034	848	607	402	326	281	213
Max	1,340	2,198	1,527	1,970	2,133	2,421	2,098	1,656	1,209	1,460	1,273	850
(WY)	(1912)	(1986)	(1973)	(1911)	(1918)	(1912)	(1958)	(1924)	(1981)	(1912)	(1942)	(1971)
Min	8.12	34.6	195	112	159	187	213	192	66.0	39.2	31.1	12.2
(WY)	(1954)	(1954)	(1961)	(1977)	(1978)	(1915)	(1921)	(1982)	(1965)	(1993)	(1957)	(1946)

DISCHARGE SUMMARY STATISTICS

Water Years 1911 - 1993

Annual mean	554
Highest annual mean	934 1912
Lowest annual mean	366 1959
Highest daily mean	21,000 Nov 5, 1985
Lowest daily mean	3.0 Oct 7, 1914
Annual seven-day minimum	3.4 Oct 6, 1953
Maximum peak flow	^a 43,000 Nov 5, 1985 (^b 19.86 ft stage)
Instantaneous low flow	1.0 Oct 7, 1914
Annual runoff (cfsm)	2.60
Annual runoff (inches)	35.32
10 percent duration	1,260
50 percent duration	309
90 percent duration	68

Climatic Years 1930 - 2002 (Wiley, 2006)

1 day 10 yr low flow	9.02
7 day 10 yr low flow	10.8
30 day 5 yr low flow	30.1
1 day 3 yr bio-based low flow	7.00
4 day 3 yr bio-based low flow	10.0
10 percent duration	1,260
50 percent duration	317
90 percent duration	69.0
EPA harmonic mean	142

^a From rating curve extended above 11,000 ft³/s on basis of slope-area measurement of peak flow, highest since 1888.

^b From floodmarks.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1946 to December 1948, April to September 1949, January to September 1950, October 1952 to September 1964, October 1973 to December 1974.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 30.5°C, Aug. 26, 1959; minimum, freezing point on many days during winter months.

03069500 CHEAT RIVER NEAR PARSONS, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°07'22", long 79°40'53" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, on left bank 2.0 mi north of Parsons, 3.0 mi downstream from confluence of Black Fork and Shavers Fork, and at mile 75.2.

DRAINAGE AREA.--722 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1913 to September 2008 (daily discharge and peaks). Monthly discharge only for some periods published in WSP 1305.

REVISED RECORDS.--WSP 1305: 1917(M), 1924(M), 1932(M), 1936(M), 1938-39(M). WSP 1335: 1916. WSP 1385: 1918-19(M). WDR WV-97-1: Drainage area, 1888(M), 1914(P), 1915-16(M), 1917(P), 1924(P), 1939(P), 1940(M), 1942(M), 1948-49(M), 1955-57(M), 1962-64(M), 1967(M), 1971-73(M), 1977(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,589.66 ft above COE 12. Prior to Aug. 17, 1944, nonrecording gage on Moss Bridge about 1,600 ft upstream at datum 1.13 ft higher. Nov. 21, 1985, to Sept. 30, 1986, recording gage on Moss Bridge at datum 1.27 ft lower.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1844 was about 85,000 ft³/s. Flood of July 10, 1888 reached a stage of 20.5 ft, from floodmarks, at site and datum in use prior to Aug. 17, 1944, discharge, 71,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1913 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	890	1,450	2,083	2,346	2,575	3,269	2,593	2,055	1,273	955	839	615
Max	3,882	7,540	4,969	5,217	6,223	8,028	6,272	7,187	4,013	4,228	3,203	3,093
(WY)	(1977)	(1986)	(1973)	(1996)	(1994)	(1963)	(1958)	(1996)	(1974)	(1996)	(1942)	(2003)
Min	18.6	37.5	387	370	459	441	668	443	188	89.3	34.9	23.3
(WY)	(1931)	(1931)	(1931)	(1977)	(1978)	(1915)	(1921)	(1930)	(1991)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1913 - 2008	
Annual mean	1,740
Highest annual mean	3,124 1996
Lowest annual mean	1,111 1930
Highest daily mean	70,000 Nov 5, 1985
Lowest daily mean	10 Aug 12, 1930
Annual seven-day minimum	11 Oct 9, 1930
Maximum peak flow	^a 170,000 Nov 5, 1985 (^b 24.30 ft stage)
Instantaneous low flow	^c 9.0 Aug 12, 1930
Annual runoff (cfsm)	2.41
Annual runoff (inches)	32.75
10 percent duration	4,020
50 percent duration	985
90 percent duration	178
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	29.1
7 day 10 yr low flow	33.5
30 day 5 yr low flow	79.3
1 day 3 yr bio-based low flow	26.9
4 day 3 yr bio-based low flow	33.6
10 percent duration	3,980
50 percent duration	961
90 percent duration	167

^a From rating curve extended above 55,000 ft³/s, highest since 1844.

^b From floodmarks.

^c Observed.

03069850 LONG RUN NEAR PARSONS, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°15'32", long 79°43'18" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, on left bank 8 ft upstream from entrance to culvert on State Route 72, 0.1 mi southeast of Tucker County line, and 11.0 mi north of Parsons.

DRAINAGE AREA.--0.95 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1977 (annual maxima). Water years 1966, 1970, and 1971 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 205 ft³/s, Aug. 10, 1969, gage height, 10.10 ft.

03069870 CHEAT RIVER AT HWY 50 NEAR ROWLESBURG, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°19'11", long 79°39'25" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020004, on left bank at WV Route 50 Highway bridge at Macomber, 3 mi upstream from Rowlesburg, and at mile 48.6.

DRAINAGE AREA.--912 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1997 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-2004-1: 1998-2003(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,404.34 ft above NAVD 88 (VERTCON conversion of 1,405.00 ft above NGVD 29).

REMARKS.—Discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1998 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,047	2,280	2,656	3,459	3,505	4,823	4,357	3,126	2,290	1,667	809	974
Max	2,361	5,082	5,929	5,751	5,499	6,894	5,929	5,639	4,601	3,879	1,908	4,257
(WY)	(2007)	(2004)	(2008)	(1998)	(2000)	(2003)	(2002)	(2008)	(2003)	(2001)	(2007)	(2003)
Min	142	156	797	1,382	1,524	1,680	3,005	1,588	254	126	93.6	132
(WY)	(2002)	(2002)	(1999)	(2000)	(2002)	(2006)	(2008)	(2006)	(1999)	(1999)	(1999)	(2008)

DISCHARGE SUMMARY STATISTICS		
Water Years 1998 - 2008		
Annual mean	2,577	
Highest annual mean	3,578	2003
Lowest annual mean	1,759	1999
Highest daily mean	33,200	Feb 19, 2000
Lowest daily mean	38	Aug 25, 1999
Annual seven-day minimum	47	Aug 21, 1999
Maximum peak flow	43,800	Feb 19, 2000 (16.02 ft stage)
Instantaneous low flow	36	Aug 25, 1999
Annual runoff (cfsm)	2.83	
Annual runoff (inches)	38.39	
10 percent duration	6,310	
50 percent duration	1,470	
90 percent duration	222	

03070000 CHEAT RIVER AT ROWLESBURG, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°20'46", long 79°39'56" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020004, on right bank 800 ft upstream from Baltimore & Ohio Railroad bridge at Rowlesburg, 1,100 ft upstream from Saltlick Creek, and at mile 44.2.

DRAINAGE AREA.--939 mi², area at site prior to Nov. 5, 1985 was 974 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1920 to September 1921 (annual maxima), October 1923 to September 1941 (daily discharge and annual maxima), October 1941 to September 1996 (daily discharge and peaks). Gage height records collected at practically the same site since 1884 are contained in reports of the National Weather Service. Monthly discharge only for some periods published in WSP 1305.

REVISED RECORDS.--WSP 893: 1936-37. WSP 1173: 1924-34(M,m). WSP 1725: 1924(M), 1930(M), 1932(M), 1936(M), 1938-39(M), 1944(M), 1948-49(M). WRD WV-97-1: Drainage area, 1844(M), 1888(M), 1955(M), 1963(M), 1987-95(P), WDR-US-2008: 1949.

GAGE.--Water-stage recorder. Datum of gage is 1,367.58 ft above NAVD 88 (VERTCON conversion of 1,368.24 ft above NGVD 29). Prior to Sept. 30, 1986, at datum 2.00 ft higher. Prior to Nov. 5, 1985 at site 800 ft downstream at datum 1.56 ft higher. Prior to Nov. 18, 1923, nonrecording gages at several sites within 1,300 ft of present site at various datums.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 6, 1844, reached a stage of 18.7 ft, discharge 111,000 ft³/s, and the flood of July 10, 1888, reached a stage of 18.2 ft, 101,000 ft³/s; the flood stages are referred to present gage at present datum by a relation curve; the flood discharges are determined based on the Oct. 16, 1954 and the Nov. 5, 1985 flood discharges determined in cooperation with the U.S. Army Corp of Engineers.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1924 - 1996, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,100	1,920	2,898	3,142	3,586	4,334	3,534	2,799	1,622	1,223	1,156	753
Max	4,890	10,400	6,865	6,948	7,665	11,260	7,370	9,269	5,514	5,528	4,079	3,727
(WY)	(1977)	(1986)	(1973)	(1996)	(1956)	(1963)	(1958)	(1996)	(1981)	(1996)	(1956)	(1996)
Min	18.6	42.6	465	514	614	2,238	1,094	768	219	121	44.2	30.3
(WY)	(1931)	(1931)	(1931)	(1977)	(1978)	(1931)	(1946)	(1991)	(1965)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS		
Water Years 1924 - 1996		
Annual mean	2,334	
Highest annual mean	4,097	1996
Lowest annual mean	1,564	1959
Highest daily mean	94,000	Nov 5, 1985
Lowest daily mean	11	Oct 15, 1930
Annual seven-day minimum	12	Oct 10, 1930
Maximum peak flow	^a 190,000	Nov 5, 1985
	(^b 35.34 ft stage)	
Instantaneous low flow	10	Oct 15, 1930
Annual runoff (cfsm)	2.49	
Annual runoff (inches)	33.77	
10 percent duration	5,380	
50 percent duration	1,320	
90 percent duration	218	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	34.2	
7 day 10 yr low flow	38.4	
30 day 5 yr low flow	96.7	
1 day 3 yr bio-based low flow	35.0	
4 day 3 yr bio-based low flow	39.6	
10 percent duration	5,430	
50 percent duration	1,300	
90 percent duration	208	
EPA harmonic mean	471	

^a Determined in cooperation with the U.S. Army Corps of Engineers.

^b From floodmarks at former site at gage datum 1369.80 ft (NGVD 29), highest since 1844.

03070260 CHEAT RIVER AT ALBRIGHT, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°29'21", long 79°38'10" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020004, on left bank at intake for Albright Power Station about 400 ft upstream from private bridge, 0.6 mi upstream from State Route 26 bridge, 0.3 mi downstream from Dougherty Run, and at mile 30.2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1996 to September 1997 (daily discharge and annual maxima), October 2005 to September 2008 (annual maximum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,201.45 ft above NAVD 88 (VERTCON conversion of 1,202.00 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 9.25 ft, Mar. 5, 2008; minimum gage height for period of record, less than zero many days some years.

DISCHARGE SUMMARY STATISTICS		
Water Year 1997		
Annual mean	2,776	
Highest daily mean	28,900	Mar 2
Lowest daily mean	^e 130	Jul 18, 19
Annual seven-day minimum	141	Jul 16
Maximum peak flow	35,700	Dec 2
	(7.4 ft stage)	
Annual runoff (cfs)	2.66	
Annual runoff (inches)	36.10	
10 percent duration	6,150	
50 percent duration	1,890	
90 percent duration	292	

^e Estimated.

03070310 CONNER RUN NEAR VALLEY POINT, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°34'18", long 79°40'39" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020004, on left bank, 2.3 mi west-southwest of Valley Point, and at mile 2.4.

DRAINAGE AREA.--0.54 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1982 to September 1983 (daily discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is approximately 2,019.57 ft above NAVD 88 (VERTCON conversion of 2,020 ft above NGVD 29, from topographic map).

DISCHARGE SUMMARY STATISTICS		
Water Years 1982 - 1983		
Highest daily mean	16	Jan 23, 1982
Lowest daily mean	0.01	(a)
Annual seven-day minimum	0.01	Sep 12, 1982
Maximum peak flow	55	Sep 13, 1983
	(5.65 ft stage)	
Instantaneous low flow	0.01	(a)
10 percent duration	1.5	
50 percent duration	0.28	
90 percent duration	0.04	

^a Many days each year.

03070350 CHEAT RIVER NEAR MT. NEBO, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°35'40", long 79°44'56" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020004, on left bank 150 ft upstream of Jenkintown Bridge, 1.3 mi northeast of town of Bull Run, 2.3 mi west southwest of Mt. Nebo, and 800 ft upstream from mouth of Big Sandy Creek.

DRAINAGE AREA.—1,132 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1996 to September 1998 (daily discharge).

GAGE.--Water-stage recorder. datum of gage is approximately 959.56 ft above NAVD 88 (VERTCON conversion of 960 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1997 - 1998, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,633	4,346	4,080	3,985	3,886	6,573	3,272	3,363	3,224	1,102	1,099	514
Max	2,716	4,369	5,099	5,797	4,580	6,741	4,281	3,706	4,999	1,632	1,192	728
(WY)	(1997)	(1997)	(1997)	(1998)	(1998)	(1997)	(1998)	(1997)	(1998)	(1998)	(1997)	(1997)
Min	549	4,323	3,061	2,174	3,192	6,405	2,264	3,020	1,417	561	1,007	300
(WY)	(1998)	(1998)	(1998)	(1997)	(1997)	(1998)	(1997)	(1998)	(1997)	(1997)	(1998)	(1998)

DISCHARGE SUMMARY STATISTICS	
Water Years 1997 - 1998	
Annual mean	3,086
Highest annual mean	3,318 1998
Lowest annual mean	2,851 1997
Highest daily mean	25,900 Dec 2, 1996
Lowest daily mean	144 Sep 7, 1998
Annual seven-day minimum	163 Sep 2, 1998
Maximum peak flow	33,500 Dec 2, 1996 (14.30 ft stage)
Annual runoff (cfsm)	2.72
Annual runoff (inches)	37.02
10 percent duration	6,510
50 percent duration	2,220
90 percent duration	317

03070500 BIG SANDY CREEK AT ROCKVILLE, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°36'56", long 79°42'18" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020004, on right bank just downstream from highway bridge at Rockville, and at mile 5.0.

DRAINAGE AREA.--200 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1909 to March 1918, and April 1921 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 583: 1912(M), 1922-23. WSP 643: Drainage area. WSP 923: 1939. WSP 1173: 1930-34(M,m). WSP 1335: 1910-18, 1921, 1922-24(M), 1928(M), 1930-43(M). WDR WV-97-1: 1922(P), 1924(P). WDR-US-2008: 1912(M), 1916(M), 1917(M), 1922, 1933(M), 1941(M), 1949(M), 1955(M), 1956(M), 1963(M), 1966(M), 1967(M), 1972(M), 1986(M), 1996(P), 2000(M).

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is approximately 1,309.57 ft above NAVD 88 (VERTCON conversion of 1,310 ft above NGVD 29, from topographic map). Prior to Oct. 4, 1924, nonrecording gages at highway bridge at same datum.

REMARKS.— Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, reached a stage of about 20 ft, discharge, about 30,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1909 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	167	341	553	643	692	812	637	491	290	179	137	126
Max	853	1,540	1,241	1,749	1,766	1,742	1,318	1,102	1,115	1,071	1,035	734
(WY)	(1912)	(1986)	(1973)	(1937)	(1918)	(1963)	(1940)	(1921)	(1941)	(1912)	(1956)	(1911)
Min	0.33	2.32	39.1	81.5	106	213	207	81.7	25.0	7.93	6.05	1.13
(WY)	(1954)	(1954)	(1954)	(1977)	(1934)	(1987)	(1946)	(1926)	(1953)	(1953)	(1953)	(1953)

DISCHARGE SUMMARY STATISTICS

Water Years 1909 - 2008	
Annual mean	421
Highest annual mean	671 1912
Lowest annual mean	240 1954
Highest daily mean	15,700 Jan 13, 1911
Lowest daily mean	0.10 Oct 21-27, 1953
Annual seven-day minimum	0.10 Oct 21, 1953
Maximum peak flow	^a 26,400 Jul 24, 1912 (^b 18.00 ft stage)
Instantaneous low flow	0.10 Oct 21-27, 1953
Annual runoff (cfsm)	2.10
Annual runoff (inches)	28.57
10 percent duration	989
50 percent duration	215
90 percent duration	21
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	2.43
7 day 10 yr low flow	2.88
30 day 5 yr low flow	9.90
1 day 3 yr bio-based low flow	2.49
4 day 3 yr bio-based low flow	3.27
10 percent duration	957
50 percent duration	210
90 percent duration	20.7
EPA harmonic mean	39.0

^a From rating curve extended above 10,000 ft³/s on basis of velocity-area studies.

^b Observed.

03071000 CHEAT RIVER NEAR PISGAH, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°36'25", long 79°46'40" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020004, on right bank 0.75 mi upstream from Scott Run, 2 mi downstream from Big Sandy Creek, 2.5 mi southwest of Pisgah, 10 mi east of Morgantown, and at mile 16.9.

DRAINAGE AREA.—1,354 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1902 to September 1917 (annual maximum discharge, estimated based on records for Cheat River near Morgantown), October 1927 to September 1929 (daily and annual maximum discharge), October 1929 to September 1958 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-97-1: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 875.68 ft above COE 12. Prior to Nov. 14, 1927, staff gage at site 150 ft upstream at same datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 155,000 ft³/s, July 10, 1888. The July 10, 1888 flood was the highest since 1844. Annual maximum discharges for 1888, 1903-05, 1909-17, and 1923-26 were estimated by drainage-area comparison with station Cheat River near Morgantown (03071500) and published in WDR WV-98-1.

DISCHARGE SUMMARY STATISTICS		
Water Years 1928 - 1958		
Annual mean	2,988	
Highest daily mean	80,300	Oct 16, 1954
Lowest daily mean	13	Oct 15, 1953
Annual seven-day minimum	14	Oct 12, 1953
Maximum peak flow	^a 127,000	Oct 16, 1954 (30.10 ft stage)
Instantaneous low flow	13	Oct 15, 1953
10 percent duration	6,700	
50 percent duration	1,740	
90 percent duration	240	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	42.6	
7 day 10 yr low flow	46.9	
30 day 5 yr low flow	120	
1 day 3 yr bio-based low flow	41.0	
4 day 3 yr bio-based low flow	49.6	
10 percent duration	6,900	
50 percent duration	1,790	
90 percent duration	260	
EPA harmonic mean	597	

^a From rating curve extended above 25,000 ft³/s.

03071500 CHEAT RIVER NEAR MORGANTOWN, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°40'00", long 79°51'45" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020004, at highway bridge at Uneva, 7 mi east of Morgantown, and at mile 10.

DRAINAGE AREA.--1,380 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1902 to December 1905, December 1908 to January 1918, and January 1923 to September 1923 (daily discharge and peaks), October 1923 to November 1925 (daily discharge and annual maxima).

REVISED RECORDS.--According to file notes dated 7/15/37, discharge records for 1902 to 1925 revised but not republished.

GAGE.--Chain gage. Datum of gage is 822.28 ft above COE 12. Prior to Dec. 28, 1922, chain or staff gage at same site or at site 1 mile downstream at different datums.

REMARKS.-- Water-discharge records in ft³/s, stage readings in ft. All records recomputed by West Virginia Power and Transmission Co. in 1931 and republished in WSP 803 (1936).

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--13 years, 3,190 ft³/s.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888 reached a stage of 18.7 ft, discharge estimated as 160,000 ft³/s. The flood of July 10, 1888 is the highest since 1844.

DISCHARGE SUMMARY STATISTICS		
	Water Years 1902 - 1926	
Highest daily mean	57,200	Jan 30, 1911
Lowest daily mean	88	Sep 22, 1902
Annual seven-day minimum	94	Sep 20, 1902
Maximum peak flow	86,300	Mar 29, 1924 (^a 13.99 ft stage)
10 percent duration	7,590	
50 percent duration	1,580	
90 percent duration	273	

^a From graph of gage readings.

03071590 CHEAT LAKE NEAR STEWARTSTOWN, WV

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°43'12", long 79°51'21" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020004.

DRAINAGE AREA.--1,411 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 2006 to September 2008 (annual maximum and minimum water-surface elevation).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is at NGVD 29 (0.37 ft below NAVD 88, VERTCON conversion of 0.00 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum water-surface elevation above NGVD 29, 870.35 ft, Feb. 26, 2007; minimum, 857.67 ft, Mar. 2, 2007.

03071600 CHEAT RIVER AT LAKE LYNN, PA

Monongahela Basin
Cheat Subbasin

LOCATION.--Lat 39°43'15", long 79°51'20" referenced to North American Datum of 1927, Fayette County, PA, Hydrologic Unit 05020004, at downstream side of dam.

DRAINAGE AREA.—1,411 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 2005 to September 2008 (annual maximum and minimum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 776.63 ft above NAVD 88 (VERTCON conversion of 777.00 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 20.59 ft, Apr. 16, 2007; minimum, 5.09 ft, Sept. 29, 2008.

03075650 HAYES RUN NEAR CRANESVILLE, WV

Monongahela Basin
Youghiogheny Subbasin

LOCATION.--Lat 39°31'55", long 79°29'16" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020006, on left bank, 1.5 mi southeast of Cranesville, and at mile 0.2.

DRAINAGE AREA.--0.93 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1980 to September 1982 (daily discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is approximately 2,549.60 ft above NAVD 88 (VERTCON conversion of 2,550 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1980 - 1982		
Highest daily mean	19	Dec 23, 1981
Lowest daily mean	0.25	Sep 20, 1982
Annual seven-day minimum	0.29	Sep 14, 1982
Maximum peak flow	^a 39	Jul 3, 1982 (3.97 ft stage)
Instantaneous low flow	0.25	Sep 12, 1982 ^b
10 percent duration	4.5	
50 percent duration	1.3	
90 percent duration	0.50	

^a From rating curve extended above 15 ft³/s on basis of culvert computation.

^b Also Sept 13-15, 17-21, 1982.

03075670 MUDDY CREEK NEAR CRANESVILLE, WV

Monongahela Basin
Youghiogheny Subbasin

LOCATION.--Lat 39°31'29", long 79°28'54" referenced to North American Datum of 1927, Garrett County, MD, Hydrologic Unit 05020006, on left bank 5 ft upstream from culvert on Riley Road, 0.2 mi north of Lake Ford, MD, 2.1 mi south of Cranesville, and a mile 5.8.

DRAINAGE AREA.--5.09 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1980 to September 1982 (daily discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is approximately 2,529.59 ft above NAVD 88 (VERTCON conversion of 2,530 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1980 - 1982

Highest daily mean	119	Jul 4, 1982
Lowest daily mean	0.80	Aug 27, 1981
Annual seven-day minimum	0.83	Aug 22, 1981
Maximum peak flow	140	Jul 4, 1982 (6.08 ft stage)
10 percent duration	22	
50 percent duration	7.8	
90 percent duration	2.1	

03075680 CUPP RUN NEAR CRANESVILLE, WV

Monongahela Basin
Youghiogheny Subbasin

LOCATION.--Lat 39°30'45", long 79°30'05" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020006, on right bank, 10 ft below bridge on State Highway 47, 2.8 mi southwest of Cranesville, 4.9 mi northeast of Terra Alta, and at mile 1.1.

DRAINAGE AREA.--1.42 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1980 to September 1982 (daily discharge).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is approximately 2,669.61 ft above NAVD 88 (VERTCON conversion of 2,670 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1980 - 1982

Highest daily mean	50	Jul 3, 1982
Lowest daily mean	0.19	Aug 30, 1981
Annual seven-day minimum	0.25	Aug 26, 1981
Maximum peak flow	142	Jul 3, 1982
10 percent duration	9.1	
50 percent duration	2.0	
90 percent duration	0.55	

03110690 OHIO RIVER AT NEW CUMBERLAND LOCK & DAM (LOWER), OH

Upper Ohio-Beaver Basin
Upper Ohio Subbasin

LOCATION.--Lat 40°31'41", long 80°37'33" referenced to North American Datum of 1927, Jefferson County, OH, Hydrologic Unit 05030101, at downstream side of Lock and Dam, and at mile 54.4 measured downstream from Pittsburgh, PA.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 2005 to September 2008 (annual maximum and minimum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 631.56 ft above NAVD 88 (VERTCON conversion of 632.10 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 32.87 ft, Feb. 7, 2008; minimum, 11.71 ft, May 8, 2006.

03110830 KINGS CREEK AT WEIRTON, WV

Upper Ohio-Beaver Basin
Upper Ohio Subbasin

LOCATION.--Lat 40°26'08", long 80°35'34" referenced to North American Datum of 1927, Hancock County, WV, Hydrologic Unit 05030101, at county road bridge 0.2 mi upstream from State Route 2, and at mile 1.4.

DRAINAGE AREA.--48.9 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1976 to September 1978 and December 2002 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR-US-2006: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 697.74 ft above NAVD 88 (VERTCON conversion of 698.34 ft above NGVD 29).

REMARKS.— Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1977 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	32.7	46.5	74.9	109	87.5	139	99.0	73.0	39.6	27.4	25.2	46.3
Max	65.5	79.9	111	237	165	259	151	134	78.6	68.2	80.7	250
(WY)	(2005)	(2004)	(2005)	(2005)	(2008)	(2008)	(2005)	(2003)	(2004)	(2003)	(2004)	(2004)
Min	7.14	12.7	31.3	8.29	20.2	55.4	61.1	47.3	9.33	7.54	4.47	6.17
(WY)	(2008)	(1977)	(1977)	(1977)	(1978)	(2006)	(2008)	(2008)	(2007)	(2007)	(2006)	(2005)

DISCHARGE SUMMARY STATISTICS

Water Years 1977 - 2008

Annual mean	66.4	
Highest annual mean	99.6	2004
Lowest annual mean	41.2	1977
Highest daily mean	^c 2,000	Sep 17, 2004
Lowest daily mean	1.5	Aug 15, 2005
Annual seven-day minimum	1.9	Aug 13, 2005
Maximum peak flow	^a 8,700	Sep 17, 2004
	^b 17.21 ft stage)	
Instantaneous low flow	1.5	Aug 14, 2005 ^c
Annual runoff (cfsm)	1.36	
Annual runoff (inches)	18.44	
10 percent duration	140	
50 percent duration	34	
90 percent duration	5.0	

^c Estimated.

^a From rating curve extended above 1,400 ft³/s on the basis of theoretical bridge computation.

^b From floodmark.

^c Also Aug. 15, 16, 20, 26, 2005.

03111515 OHIO RIVER AT PIKE ISLAND LOCK & DAM (UPPER), WV

Upper Ohio-Beaver Basin
Upper Ohio-Wheeling Subbasin

LOCATION.--Lat 40°09'10", long 80°42'00" referenced to North American Datum of 1927, Ohio County, WV, Hydrologic Unit 05030106, at upstream side of dam, and at mile 84.2 measured downstream from Pittsburgh, PA.

DRAINAGE AREA.--24,600 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 2007 to September 2008 (annual maximum and minimum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 631.52 ft above NAVD 88 (VERTCON conversion of 632.20 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 14.96 ft, Feb. 8, 2008; minimum, 11.71 ft, Apr. 15, 2007.

03111520 OHIO RIVER AT PIKE ISLAND LOCK & DAM (LOWER), WV

Upper Ohio-Beaver Basin
Upper Ohio-Wheeling Subbasin

LOCATION.--Lat 40°08'59", long 80°42'06" referenced to North American Datum of 1927, Ohio County, WV, Hydrologic Unit 05030106, at downstream side of dam, and at mile 84.2 measured downstream from Pittsburgh, PA.

DRAINAGE AREA.--24,600 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2005 to September 2008 (annual maximum and minimum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 610.62 ft above NAVD 88 (VERTCON conversion of 611.30 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 34.45 ft, Feb. 8, 2008; minimum, 11.88 ft, Aug. 6, 2007.

03111534 OHIO RIVER AT MARTINS FERRY, OH

Upper Ohio-Beaver Basin
Upper Ohio-Wheeling Subbasin

LOCATION.--Lat 40°06'18", long 80°42'31" referenced to North American Datum of 1927, Belmont County, OH, Hydrologic Unit 05030106, on right bank at water plant at Martins Ferry, Ohio, 300 ft downstream from Old Lock 12, 0.9 mi downstream from Glens Run (Ohio), 3.0 mi upstream from Wheeling Creek (Ohio), and at mile 87.5, measured downstream from Pittsburgh, PA.

DRAINAGE AREA.--24,620 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1883 to September 1884, October 1904 to September 1907, October 1912 to September 1913, October 1935 to September 1937, October 1942 to September 1943 (annual maximum discharge). February 1884, January 1905, March 1905 to January 1907, February and March 1936, December 1936 to February 1937 (monthly discharge, published in WSP 1305 as "at Wheeling"), October 1978 to September 1995 (daily discharge and annual maxima). Gage-height records collected in this vicinity since 1882 are in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 610.80 ft above sea level, Ohio River Datum. See WSP 1305 for history of gages prior to 1978. Auxiliary water-stage recorder 12.9 mi downstream from base gage at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow regulated by Ohio River system of locks, dams, and reservoirs.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1978 - 1995, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	22,470	39,380	55,650	50,190	62,820	71,950	68,810	44,220	32,090	23,650	18,870	17,850
Max	58,930	114,900	99,850	105,800	107,300	124,900	113,400	94,750	86,840	49,950	55,930	40,140
(WY)	(1991)	(1986)	(1991)	(1991)	(1990)	(1994)	(1994)	(1989)	(1989)	(1990)	(1980)	(1990)
Min	8,697	10,920	23,220	20,420	24,910	36,480	33,070	19,320	9,880	7,023	5,710	5,890
(WY)	(1983)	(1992)	(1990)	(1981)	(1980)	(1987)	(1995)	(1986)	(1988)	(1988)	(1988)	(1983)

DISCHARGE SUMMARY STATISTICS		
Water Years 1978 - 1995		
Annual mean	42,190	
Highest annual mean	53,190	1994
Lowest annual mean	29,460	1995
Highest daily mean	331,000	Jan 1, 1991
Lowest daily mean	4,000	Sep 10, 1983
Annual seven-day minimum	4,440	Aug 12, 1988
Maximum peak flow	466,000	Mar 19, 1936 (55.20 ft stage)
10 percent duration	90,000	
50 percent duration	31,000	
90 percent duration	9,880	

03111950 DUNKARD FORK NEAR MAJORSVILLE, WV

Upper Ohio-Beaver Basin
Upper Ohio-Wheeling Subbasin

LOCATION.--Lat 39°57'10", long 80°31'33" referenced to North American Datum of 1927, Marshall County, WV, Hydrologic Unit 05030106.

DRAINAGE AREA.--77.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 2002 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 799.54 ft above NAVD 88 (VERTCON conversion of 800.0 ft above NGVD 29).

REMARKS.--Dam name: Wheeling Creek No. 3

Surface area: 31 acres

Normal Pool = 40.4 ft (Normal Storage = 221 acre-ft)

Top of Riser = 46.4 ft

Emergency Spillway = 84.8 ft

Top of Dam = 102.4 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 82.66 ft, Sept. 18, 2004; minimum gage height, 40.19 ft, Aug. 14, 15, 16, Sept. 14, 2005.

03112000 WHEELING CREEK AT ELM GROVE, WV

Upper Ohio-Beaver Basin
Upper Ohio-Wheeling Subbasin

LOCATION.--Lat 40°02'40", long 80°39'40" referenced to North American Datum of 1927, Ohio County, WV, Hydrologic Unit 05030106, on right bank at highway bridge at Elm Grove, 500 ft downstream from Little Wheeling Creek, and at mile 7.8.

DRAINAGE AREA.--281 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1940 to September 2008 (daily discharge and peaks). Monthly discharge only for October 1940, published in WSP 1907.

REVISED RECORDS.--WSP 1305: 1941(M). WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 667.09 ft above NAVD 88 (667.59 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. The flow from 205 mi² upstream from station is partially controlled, but not diverted, by seven floodwater detention reservoirs with a total combined detention capacity of 24,148 acre-ft. Cumulative detention as construction progressed 1975 to 1995.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1941 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	81.9	208	373	525	608	746	578	423	240	144	99.0	100
Max	627	2,085	1,369	1,951	1,249	1,670	1,336	1,107	1,004	885	1,424	1,484
(WY)	(1991)	(1986)	(1991)	(2005)	(1975)	(1963)	(1961)	(1967)	(1981)	(1956)	(1980)	(2004)
Min	0.53	1.89	5.45	21.4	85.0	126	115	66.0	16.1	3.90	2.06	0.88
(WY)	(1964)	(1964)	(1964)	(1967)	(1964)	(1969)	(1971)	(1986)	(1962)	(1962)	(1957)	(1966)

DISCHARGE SUMMARY STATISTICS

Water Years 1941 - 2008	
Annual mean	343
Highest annual mean	653 2004
Lowest annual mean	112 1954
Highest daily mean	13,100 Dec 30, 1942
Lowest daily mean	0.10 Sep 26, 27, 1964
Annual seven-day minimum	0.24 Sep 21, 1964
Maximum peak flow	^a 22,300 Sep 17, 2004 (^b 13.83 ft stage)
Instantaneous low flow	0.10 Oct 7, 1963 ^c
Annual runoff (cfsm)	1.22
Annual runoff (inches)	16.56
10 percent duration	834
50 percent duration	140
90 percent duration	10
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.36
7 day 10 yr low flow	0.60
30 day 5 yr low flow	2.81
1 day 3 yr bio-based low flow	0.30
4 day 3 yr bio-based low flow	0.37
10 percent duration	858
50 percent duration	126
90 percent duration	7.8

EPA harmonic mean 13.9

^a From rating curve extended above 15,000 ft³/s on basis of slope-area measurements at gage heights 13.20 ft and 13.65 ft.

^b From high-water mark in well.

^c Also Sept. 26, 27, 1964.

03112500 OHIO RIVER AT WHEELING, WV

Upper Ohio-Beaver Basin
Upper Ohio-Wheeling Subbasin

LOCATION.--Lat 40°03'26", long 80°43'43" referenced to North American Datum of 1927, Ohio County, WV, Hydrologic Unit 05030106, on left bank, at rear of City of Wheeling Water Pollution Control Department in Wheeling, and at mile 86.7 measured downstream from Pittsburgh, PA.

DRAINAGE AREA.--25,030 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2005 to September 2008 (annual maximum and minimum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is unknown.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 33.83 ft, Feb. 8, 2008; minimum, 15.09 ft, Aug. 6, 2007.

03113600 OHIO RIVER AT BELLAIRE, OH

Upper Ohio-Beaver Basin
Upper Ohio-Wheeling Subbasin

LOCATION.--Lat 39°59'05", long 80°44'20" referenced to North American Datum of 1927, Belmont County, OH, Hydrologic Unit 05030106, on right bank, 1.9 mi downstream from Baltimore & Ohio Railroad bridge at Bellaire, at mile 96.4 (measured downstream from Pittsburgh, PA).

DRAINAGE AREA.--25,140 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1939 (monthly mean discharge published in WSP 1305), November 1940 to September 1958 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 608.0 ft above mean sea level, unadjusted. Prior to Mar. 15, 1941, staff gage near same site at same datum. Auxiliary water-stage recorder at site 4.0 mi downstream at same datum. Prior to Nov. 18, 1940, staff gage at auxiliary gage site.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1941 - 1958

Highest daily mean	405,000	Dec 31, 1942
Lowest daily mean	2,930	Sep 14, 1957
Annual seven-day minimum	3,500	Sep 4, 1957
Maximum peak flow	412,000	Dec 31, 1942 (48.99 ft stage)
10 percent duration	93,600	
50 percent duration	25,000	
90 percent duration	6,450	

03113700 LITTLE GRAVE CREEK NEAR GLENDALE, WV

Upper Ohio-Beaver Basin
Upper Ohio-Wheeling Subbasin

LOCATION.--Lat 39°57'40", long 80°42'04" referenced to North American Datum of 1927, Marshall County, WV, Hydrologic Unit 05030106, on right bank 0.1 mi downstream from Brandau Hollow, 2.9 mi northeast of Glendale, and at mile 6.2.

DRAINAGE AREA.--4.95 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1969 to September 1977 (daily discharge and peaks), October 1993 to September 1996 (annual maxima).

REVISED RECORDS.--OFR 97-231: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 822.42 ft above NAVD 88 (VERTCON conversion of 822.91 ft above NGVD 29).

REMARKS.--Records for 1994-96 published in WDR WV-97-1.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 18, 1980 reached a stage of 6.86 ft, discharge 1,120 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1970 - 1977		
Annual mean	6.50	
Highest daily mean	280	Jul 1, 1974
Lowest daily mean	0.00	(a)
Annual seven-day minimum	0.00	Aug 5, 1973
Maximum peak flow	^b 1,400	Jul 11, 1976 (7.00 ft stage)
Instantaneous low flow	0.00	(a)
10 percent duration	15	
50 percent duration	3.2	
90 percent duration	0.33	

^a No flow several days 1973, 1974, 1977.

^b From rating curve extended above 30 ft³/s on basis of slope-area measurements at gage heights of 6.43 ft and 7.00 ft.

03114280 OHIO RIVER AT HANNIBAL LOCK AND DAM (LOWER), OH

Upper Ohio-Little Kanawha Basin
Little Muskingum-Middle Island Subbasin

LOCATION.--Lat 39°40'02", long 80°51'58" referenced to North American Datum of 1927, Monroe County, OH, Hydrologic Unit 05030201, at downstream side of dam, and at mile 126.4 measured downstream from Pittsburgh, PA.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 2005 to September 2008 (annual maximum and minimum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 589.23 ft above NAVD 88 (VERTCON conversion of 589.80 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 30.32 ft, Feb. 8, 2008; minimum, 11.33 ft, Nov. 9, 2005.

03114500 MIDDLE ISLAND CREEK AT LITTLE, WV

Upper Ohio-Little Kanawha Basin
Little Muskingum-Middle Island Subbasin

LOCATION.--Lat 39°28'30", long 80°59'50" referenced to North American Datum of 1927, Tyler County, WV, Hydrologic Unit 05030201, on right bank at downstream side of highway bridge at Little, 0.1 mi upstream from Stewarts Run, 5.0 mi west of Middleborne, and at mile 25.1.

DRAINAGE AREA.--458 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1915 to September 1916 (daily discharge and annual maxima), October 1916 to September 1920 (daily mean gage height and annual maxima), October 1920 to September 1922, and October 1925 to September 1928 (annual maxima), October 1928 to September 1932 (daily discharge and annual maxima), October 1932 to September 1995 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is 631.32 ft above COE 12. Prior to July 11, 1947, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flood of March 1997 published in WDR WV-97-1, p. 8.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 1875 reached a stage of about 33.5 ft, 30,000 ft³/s. Flood of March 1997 reached a stage of 19.5 ft (from floodmarks), discharge 17,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1916 - 1995, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	178	414	857	1,088	1,192	1,323	1,012	721	399	209	239	167
Max	1,252	2,611	3,004	3,501	2,381	3,681	2,690	2,385	2,431	1,562	1,396	1,449
(WY)	(1990)	(1986)	(1991)	(1937)	(1939)	(1963)	(1948)	(1968)	(1974)	(1958)	(1935)	(1945)
Min	0.00	0.12	0.47	15.3	107	289	134	54.2	4.55	1.68	0.20	0.00
(WY)	(1931)	(1931)	(1931)	(1931)	(1934)	(1969)	(1971)	(1930)	(1936)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1916 - 1995	
Annual mean	648
Highest annual mean	1,098 1994
Lowest annual mean	247 1931
Highest daily mean	22,000 Nov 5, 1985
Lowest daily mean	0.00 Sep 1, 1930
Annual seven-day minimum	0.00 Sep 1, 1930
Maximum peak flow	25,000 Jun 26, 1950 (28.00 ft stage)
Instantaneous low flow	0.00 (a)
Annual runoff (cfsm)	1.41
Annual runoff (inches)	19.21
10 percent duration	1,560
50 percent duration	199
90 percent duration	12
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.27
7 day 10 yr low flow	0.40
30 day 5 yr low flow	3.14
1 day 3 yr bio-based low flow	0.17
4 day 3 yr bio-based low flow	0.23
10 percent duration	1,560
50 percent duration	201
90 percent duration	11.8
EPA harmonic mean	12.8

^a Many days in 1922, 1929, 1930.

03114550 BUFFALO RUN NEAR FRIENDLY, WV

Upper Ohio-Little Kanawha Basin
Little Muskingum-Middle Island Subbasin

LOCATION.--Lat 39°30'23", long 81°01'41" referenced to North American Datum of 1927, Tyler County, WV, Hydrologic Unit 05030201, on right bank 10 ft upstream from culvert on State Secondary Route 6, and 1.8 mi southeast of Friendly.

DRAINAGE AREA.--0.88 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1977 (annual maxima). Water years 1966 and 1976 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 585 ft³/s, June 23, 1974, gage height, 12.13 ft.

03114600 LITTLE BUFFALO RUN NEAR FRIENDLY, WV

Upper Ohio-Little Kanawha Basin
Little Muskingum-Middle Island Subbasin

LOCATION.--Lat 39°30'10", long 81°00'59" referenced to North American Datum of 1927, Tyler County, WV, Hydrologic Unit 05030201, on left bank 12 ft upstream from culvert on State Secondary Route 6, and 2.5 miles southeast of Friendly.

DRAINAGE AREA.--1.22 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1966 to September 1977 (annual maxima). Water year 1973 published in OFR 80-560.

REVISED RECORDS.--WDR WV-76-1: 1975(M).

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 635 ft³/s, June 23, 1974, gage height, 11.35 ft.

03114650 BUFFALO RUN NEAR LITTLE, WV

Upper Ohio-Little Kanawha Basin
Little Muskingum-Middle Island Subbasin

LOCATION.--Lat 39°29'13", long 81°00'27" referenced to North American Datum of 1927, Tyler County, WV, Hydrologic Unit 05030201, on left bank 1.0 mi northwest of Little, and at mile 1.4.

DRAINAGE AREA.--4.19 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1969 to September 1977 (daily discharge and peaks), October 1993 to September 2008 (annual maxima).

REVISED RECORDS.--WRD WV-72-1: 1971(P). WRD WV-74-1: 1971-73(P). WRD WV-97-1: Drainage area. WDR-US-2007: 1994-2006(P).

GAGE.--Crest-stage gage. Datum of gage is approximately 659.46 ft above NAVD 88 (VERTCON conversion of 660 ft above NGVD 29, from topographic map). Prior to Oct. 1, 1977, water-stage and rainfall recorders 0.2 mi downstream at present datum.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--8 years, 5.86 ft³/s, 18.91 in/yr.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,280 ft³/s, June 23, 1974, gage height 12.31 ft, from rating curve extended above 1,080 ft³/s; maximum gage height, 13.30 ft, June 28, 1998, from floodmark (backwater affect from debris pileup); minimum daily discharge, 0.01 ft³/s, Sept. 5-19, 22-30, Oct. 1-31, 1969.

03115000 OHIO RIVER AT ST. MARYS, WV

Upper Ohio-Little Kanawha Basin
Little Muskingum-Middle Island Subbasin

LOCATION.--Lat 39°23'25", long 81°12'30" referenced to North American Datum of 1927, Pleasants County, WV, Hydrologic Unit 05030201, on left bank at downstream side of bridge on U.S. Highway 50 (alternate) at St. Marys, 0.9 mi downstream from Middle Island Creek, and at mile 155.0 (measured downstream from Pittsburgh, PA).

DRAINAGE AREA.--26,820 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1938 to July 1972 (daily discharge and annual maxima), fragmentary prior to November 1939 and after October 1952, no low-flow records. Gage-height records collected at same site since 1904 are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 577.30 ft above Ohio River Datum (Sandy Hook Datum). Prior to Nov. 29, 1939, nonrecording gage at same site and datum. Auxiliary water-stage recorder 11.0 mi downstream at same datum. Prior to Feb. 22, 1951, auxiliary water-stage recorder 12.5 miles downstream.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow partially regulated by Ohio River system of locks, dams, and reservoirs.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1884 to July 1972, 54.2 ft in March 1913.

DISCHARGE SUMMARY STATISTICS

	Water Years 1938 - 1972	
Highest daily mean	411,000	Jan 1, 1943
Lowest daily mean	2,950	Aug 6, 1940
Annual seven-day minimum	3,270	Oct 6, 1943
Maximum peak flow	421,000	Jan 1, 1943 (46.67 ft stage)
10 percent duration	98,100	
50 percent duration	26,600	
90 percent duration	7,000	

03150700 OHIO RIVER AT MARIETTA, OH

Upper Ohio-Little Kanawha Basin
Upper Ohio-Shade Subbasin

LOCATION.--Lat 39°24'34", long 81°27'28" referenced to North American Datum of 1927, Washington County, OH, Hydrologic Unit 05030202, on right bank of the mouth of the Muskingum River at the city water plant, and at mile 172.2 measured downstream from Pittsburgh, PA.

DRAINAGE AREA.--35,590 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2005 to September 2008 (annual maximum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 566.06 ft above NAVD 88, and 566.64 ft above NGVD 29.

REMARKS.--Flow regulated by Ohio River system of locks, dams, and reservoirs upstream. Records published at 03150800 Ohio River near Marietta, OH, at site 2.1 mi downstream and at same datum water years 1969-2005 (annual maximum gage height).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 33.31 ft, Feb. 8, 2008.

03150800 OHIO RIVER NEAR MARIETTA, OH

Upper Ohio-Little Kanawha Basin
Upper Ohio-Shade Subbasin

LOCATION.--Lat 39°23'21", long 81°29'03" referenced to North American Datum of 1927, Washington County, OH, Hydrologic Unit 05030202, on right bank, 1.5 mi southwest of Marietta, OH, 2.0 mi downstream from Muskingum River, and at mile 174.3 measured downstream from Pittsburgh, PA.

DRAINAGE AREA.--35,620 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1968 to September 1993 (daily mean and annual maximum gage height), October 1993 to September 2005 (annual maximum gage height).

GAGE.--Water-stage recorder. Datum of gage is 566.07 ft above NAVD 88, and 566.64 ft above NGVD 29.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 42.37 ft, Sept. 19, 2004.

03151000 OHIO RIVER AT PARKERSBURG, WV

Upper Ohio-Little Kanawha Basin
Upper Ohio-Shade Subbasin

LOCATION.--Lat 39°16'05", long 81°33'50" referenced to North American Datum of 1927, Wood County, WV, Hydrologic Unit 05030202, on left downstream side of bridge on U.S. Highway 50 at Parkersburg, 0.3 mi upstream from Little Kanawha River, at mile 184.4 (measured downstream from Pittsburgh, PA).

DRAINAGE AREA.--35,650 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1925 to September 1939 (annual maximum gage height), January 1940 to September 1968 (daily discharge and annual maxima), October 1969 to September 1977 (annual maximum gage height). Gage-height records collected at same site since 1888 are contained in reports of National Weather Service.

GAGE.--Base gage, water-stage recorder. Datum of gage is 560.72 ft above NAVD 88 (VERTCON conversion of 561.34 ft above NGVD 29, 561.87 ft above Ohio River Datum, levels by U.S. Army Corps of Engineers). Prior to Apr. 25, 1950, water-stage recorder at Baltimore & Ohio Railroad bridge 0.3 mi at same datum. Auxiliary gage, water-stage recorder 0.4 mi downstream from lock and dam 18, and 4.0 mi upstream from base gage; prior to Nov. 13, 1948, water-stage recorder at lock 18.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow partially regulated by Ohio River system of locks, dams, and reservoirs.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--28 years, 48,230 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 440,000 ft³/s, Jan. 1, 1943, gage height, 49.03 ft; minimum daily recorded, 2,290 ft³/s, Oct. 1, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 593,000 ft³/s, Mar. 29, 1913, gage height, 58.9 ft.

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 38°44'36", long 80°31'32" referenced to North American Datum of 1927, Braxton County, WV, Hydrologic Unit 05030203, on right bank on State Secondary Route 24/1, 200 ft upstream from footbridge at Gregory, 3.9 mi west of Wildcat, and at mile 141.

DRAINAGE AREA.--112 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1973 to September 1983, and October 1985 to September 2008 (daily discharge and peaks).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 849.39 ft above NAVD 88 (850.0 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1974 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	88.2	209	301	346	371	407	343	270	150	122	81.5	56.9
Max	426	841	717	732	705	745	600	761	551	419	473	365
(WY)	(1977)	(1986)	(1979)	(1994)	(1994)	(1997)	(1980)	(1996)	(1981)	(1996)	(2000)	(2003)
Min	3.70	10.7	55.5	74.5	61.8	126	105	33.7	5.03	4.31	1.41	0.90
(WY)	(1995)	(1995)	(2002)	(1977)	(1978)	(2006)	(1999)	(1991)	(1991)	(1988)	(1993)	(2008)

DISCHARGE SUMMARY STATISTICS

Water Years 1974 - 2008

Annual mean	227	
Highest annual mean	357	1994
Lowest annual mean	134	1999
Highest daily mean	9,070	Jul 31, 1996
Lowest daily mean	0.11	Aug 17, 1987
Annual seven-day minimum	0.14	Aug 15, 1987
Maximum peak flow	^a 19,600	Jul 31, 1996 (18.47 ft stage)
Instantaneous low flow	0.11	Aug 17, 1987
Annual runoff (cfsm)	2.03	
Annual runoff (inches)	27.51	
10 percent duration	542	
50 percent duration	111	
90 percent duration	8.2	

^a From slope-area measurement, highest since 1918.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1979 to September 1981.

WATER TEMPERATURE: June to December 1979, October 1980 to September 1981.

SUSPENDED SEDIMENT RECORDS: June 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 134 microsiemens, Oct. 24, 1981; minimum, 35 microsiemens, Apr. 28, 1980.

WATER TEMPERATURE: Maximum daily, 26.0°C, July 20, 21, 23-28, 30, 31, Sept. 2, 3, 1981; minimum daily, 0.0°C Feb. 4, 1981.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,180 mg/L, Nov. 2, 1979; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOAD: Maximum daily, 14,900 tons, Apr. 9, 1980; minimum daily, 0 tons on many days.

03151500 LITTLE KANAWHA RIVER NEAR BURNSVILLE, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 38°49'25", long 80°35'35" referenced to North American Datum of 1927, Braxton County, WV, Hydrologic Unit 05030203, on left bank at downstream side of bridge on State Highway 5, 0.1 mi downstream from Knawl Creek, 4.0 mi southeast of Burnsville, and at mile 129.

DRAINAGE AREA.--155 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1937 to September 1973 (daily discharge and peaks). Monthly discharge only for some periods, published in WSP 1305.

GAGE.--Water-stage recorder. Datum of gage is 754.00 ft above COE 12. Prior to Feb. 26, 1940, nonrecording gage at site 100 ft upstream. Prior to Oct. 29, 1963, at datum 2.09 ft higher.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1918 reached a stage of 19.7 ft, datum in use at that time, 21.8 ft, present datum, discharge about 9,800 ft³/s.

DISCHARGE SUMMARY STATISTICS

Water Years 1938 - 1973	
Annual mean	282
Highest daily mean	7,270 Mar 7, 1967
Lowest daily mean	0.01 Nov 15-21, 1953
Annual seven-day minimum	0.01 Nov 15, 1953
Maximum peak flow	9,200 Feb 3, 1939 (21.13 ft stage, present datum)
Instantaneous low flow	0.01 Nov 15-21, 1953
10 percent duration	662
50 percent duration	124
90 percent duration	8.0

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1970 to December 1974.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 30.0°C, July 24, 1972; minimum, freezing point Jan. 24, Feb. 7, Mar. 25, 1971, Feb. 4, Mar. 6, 1972.

03151520 LITTLE KANAWHA RIVER BELOW BURNSVILLE DAM, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 38°50'41", long 80°37'45" referenced to North American Datum of 1927, Braxton County, WV, Hydrologic Unit 05030203, on right bank 2,600 ft below Burnsville Dam, 825 ft upstream from Williams Run and 1.6 mi southeast of Burnsville at mile 123.7.

DRAINAGE AREA.--163 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1976 to September 1982 (daily discharge and annual maxima), October 1982 to September 1986 (daily mean gage height and annual maxima), October 1986 to September 1993 (daily discharge and annual maxima), October 1993 to September 1999 (annual maxima), October 1999 to September 2001 (annual maximum gage height), October 2001 to September 2002 (annual maxima), October 2002 to September 2006 (annual maximum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 749.33 ft above NAVD 88 (VERTCON conversion of 750.00 ft above NGVD 29). Prior to Oct. 1, 1983, at datum 50 ft lower.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow regulated since March 1979 by Burnsville Reservoir at mile 124.2.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--2 years (water years 1977 and 1978), 265 ft³/s.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--(water years 1977 and 1978) Maximum discharge, 2,530 ft³/s, Oct. 9, 1976, gage height, 8.81 ft (current datum); minimum, 3.6 ft³/s, May 25, 26, 1977.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1979 - 1993, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	173	305	448	421	462	552	317	339	204	137	104	69.1
Max	571	588	875	886	708	962	590	977	808	343	299	223
(WY)	(1980)	(1987)	(1979)	(1979)	(1989)	(1993)	(1987)	(1989)	(1981)	(1992)	(1992)	(1979)
Min	30.6	97.4	124	164	263	127	180	12.4	19.7	19.0	19.0	18.6
(WY)	(1979)	(1979)	(1990)	(1981)	(1980)	(1987)	(1982)	(1982)	(1991)	(1988)	(1991)	(1987)

DISCHARGE SUMMARY STATISTICS

Water Years 1979 - 1993

Annual mean	294	
Highest annual mean	373	1989
Lowest annual mean	183	1988
Highest daily mean	2,200	Jun 8, 1981
Lowest daily mean	4.6	Oct 13, 1978
Annual seven-day minimum	5.1	Oct 1, 1978
Maximum peak flow	2,470	Feb 12, 1990
Maximum peak stage (ft)	^a 11.78	Nov 4, 1985
Instantaneous low flow	4.0	Aug 1, 1979
10 percent duration	832	
50 percent duration	147	
90 percent duration	19	

^a Affected by backwater from downstream tributaries.

03151550 SALTICK CREEK NEAR FLATWOODS, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 38°43'55", long 80°35'43" referenced to North American Datum of 1983, Braxton County, WV, Hydrologic Unit 05030203, approximately 20 feet from top and towards the left side of Saltlick #9 dam.

DRAINAGE AREA.--9.75 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 2004 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 796.59 ft above NAVD 88 (VERTCON conversion of 797.22 ft above NGVD 29).

REMARKS.--Dam name: Saltlick Creek No. 9

Surface area: 16 acres

Normal Pool = 60.58 ft (Normal Storage = 131 acre-ft)

Top of Riser = 63.00 ft

Emergency Spillway = 95.68 ft

Top of Dam = 114.08 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 83.69 ft, May 28, 2004; minimum gage height, 60.37 ft, Sept. 26, 27, 2008.

03151600 LITTLE KANAWHA RIVER AT BURNSVILLE, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 38°51'54", long 80°40'35" referenced to North American Datum of 1927, Braxton County, WV, Hydrologic Unit 05030203, on right bank 70 ft upstream from Buffalo Creek, approximately 600 ft below foot bridge, 1.4 mi downstream from Oil Creek, 1.8 mi downstream from Saltlick Creek, 1.9 mi downstream from Burnsville, and at mile 119.5.

DRAINAGE AREA.--248 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1974 to September 1978 (daily discharge and annual maxima), October 1978 to September 2000 (annual maxima), October 2000 to September 2008 (annual maximum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 738.03 ft above NAVD 88 (VERTCON conversion of 738.66 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow partially regulated by five flood-water detention reservoirs affecting 49.5 mi² and regulated since March 1979 by Burnsville Reservoir at mile 124.2.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1974 - 1978, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	304	242	547	749	572	736	500	385	330	218	112	92.2
Max	753	306	700	1,027	763	970	684	726	892	549	278	226
(WY)	(1977)	(1975)	(1975)	(1978)	(1975)	(1975)	(1975)	(1975)	(1974)	(1978)	(1978)	(1974)
Min	47.2	172	440	139	200	535	360	160	63.5	35.2	25.7	46.7
(WY)	(1975)	(1976)	(1977)	(1977)	(1978)	(1976)	(1976)	(1977)	(1977)	(1975)	(1975)	(1976)

DISCHARGE SUMMARY STATISTICS

Water Years 1974 - 1978	
Annual mean	390
Highest annual mean	462 1975
Lowest annual mean	312 1977
Highest daily mean	6,400 Jun 2, 1974
Lowest daily mean	2.4 May 24, 1977
Annual seven-day minimum	6.3 May 20, 1977
Maximum peak flow	6,890 Jun 2, 1974 (16.32 ft stage)
Instantaneous low flow	2.4 May 24, 1977
10 percent duration	1,010
50 percent duration	174
90 percent duration	22

03152000 LITTLE KANAWHA RIVER AT GLENVILLE, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 38°56'02", long 80°50'21" referenced to North American Datum of 1927, Gilmer County, WV, Hydrologic Unit 05030203, on right bank at abandoned bridge on Conrad Court Street at Glenville, 1,400 ft upstream from Sycamore Run and at mile 105.

DRAINAGE AREA.--387 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1912 to September 1914 (annual maximum gage height), June 1915 to September 1920 (daily discharge, estimated Mar. 13, 1918 peak discharge, and annual maximum gage height), October 1920 to September 1928 (estimated Nov. 16, 1926 peak discharge, and annual maximum gage height), October 1928 to September 1975 (daily discharge and peaks, monthly discharge only for October to December 1928 published in WSP 1305), October 1975 to September 1983 (daily discharge and annual maxima), October 1983 to September 1984 (annual maxima), October 1984 to September 2000 (daily discharge and annual maxima), October 2000 to September 2008 (annual maximum gage height).

REVISED RECORDS.--WSP 1305: 1930, 1932(M). WSP 1435: 1954. WSP 1555: 1947(M). WDR WV-82-1: 1979. WDR WV-97-1: Drainage area. WDR-US-2008: 1979.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 697.25 ft above NAVD 88 (697.79 ft above NGVD 29). Prior to Dec. 14, 1934, nonrecording gage at same site and datum. Prior to July 1, 1986 at site 400 ft downstream and at the same datum. May 25, 1971 to September 1983, and October 1984 to June 21, 1988, auxiliary water-stage recorder on Leading Creek near Glenville 2.7 mi downstream from base gage at datum 699.69 ft above NAVD 88 (700.23 ft above NGVD 29). Prior to May 25, 1971, auxiliary nonrecording gage at same site and datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow partially regulated since 1968 by five floodwater detention reservoirs affecting 49.5 mi² and since March 1979 flow regulated by Burnsville Reservoir at mile 124.2.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--39 years (water years 1929-67), 592 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,900 ft³/s, Nov. 5, 1985, gage height, 36.46 ft, from floodmarks; no flow at times in September and October, 1930 and 1932.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--(water years 1916-20, 1929-67), Maximum discharge, 21,500 ft³/s, Mar. 7, 1967, gage height, 34.50 ft, affected by backwater; no flow at times in September and October, 1930 and 1932. Flood of Mar. 13, 1918, reached a stage of 32.9 ft, discharge approximately 20,000 ft³/s. Flood of Nov. 16, 1926, reached a stage of 33.6 ft, discharge approximately 21,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1968 - 2000, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	253	616	908	1,012	1,105	1,161	830	718	399	280	266	148
Max	1,173	2,627	2,507	2,250	2,641	2,495	1,989	2,222	1,879	778	1,015	867
(WY)	(1977)	(1986)	(1979)	(1994)	(1994)	(1997)	(1973)	(1996)	(1981)	(1992)	(1996)	(1971)
Min	34.2	83.7	114	188	289	272	149	52.3	29.9	12.2	22.3	15.0
(WY)	(1969)	(1999)	(1999)	(1977)	(1978)	(1987)	(1999)	(1982)	(1991)	(1968)	(1988)	(1968)

DISCHARGE SUMMARY STATISTICS

Water Years 1968 - 2000	
Annual mean	640
Highest annual mean	1,063 1994
Lowest annual mean	339 1969
Highest daily mean	^a 23,600 Nov 5, 1985
Lowest daily mean	2.8 Jul 17, 1968
Annual seven-day minimum	3.8 Jul 13, 1968
Maximum peak flow	^a 26,900 Nov 5, 1985 (^b 36.46 ft stage)
Instantaneous low flow	1.7 Jul 10, 1968
10 percent duration	1,750
50 percent duration	267
90 percent duration	31

Climatic Years 1930 – 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.55
7 day 10 yr low flow	0.90
30 day 5 yr low flow	5.00
1 day 3 yr bio-based low flow	0.27
4 day 3 yr bio-based low flow	0.37
10 percent duration	1,520
50 percent duration	237
90 percent duration	18.7
EPA harmonic mean	22.0

^a From rating curve extended above 18,000 ft³/s.

^b From floodmark.

03152200 BUCK RUN NEAR LEOPOLD, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 39°07'26", long 80°41'26" referenced to North American Datum of 1927, Doddridge County, WV, Hydrologic Unit 05030203, on right bank, 50 ft upstream from culvert under secondary Route 66, 0.3 mi upstream from the mouth and 2.6 mi east of Leopold.

DRAINAGE AREA.--2.91 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1969 to September 1977 (daily discharge and peaks), October 1993 to September 2006 (annual maxima).

REVISED RECORDS.--WDR-US-2006: 1999-2003 (M).

GAGE.--Crest-stage gage. Elevation of gage is approximately 839.46 ft above NAVD 88 (VERTCON conversion of 840 ft above NGVD 29, from topographic map). Prior to Sept. 30, 1977, water-stage and rainfall recorders and culvert control at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Maximum discharge, 1,290 ft³/s, June 28, 1998, gage height, 11.45 ft, from culvert computation with road overflow; no flow part of each day Aug. 24, 25, 1976.

DISCHARGE SUMMARY STATISTICS	
Water Years 1970 - 1977	
Annual mean	4.40
Highest daily mean	127 Oct 9, 1976
Lowest daily mean	0.01 Jun 11, 1970 ^a
Annual seven-day minimum	0.01 Sep 11, 1970
Maximum peak flow	493 Jun 1, 1974 (5.24 ft stage)
Instantaneous low flow	0.00 (b)
10 percent duration	11
50 percent duration	1.4
90 percent duration	0.07

^a Also several days in 1971, 1975, and 1976 water years.

^b No flow all or part of each day Aug. 24, 25, 1976.

03152500 LEADING CREEK NEAR GLENVILLE, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 38°57'45", long 80°52'00" referenced to North American Datum of 1927, Gilmer County, WV, Hydrologic Unit 05030203, on left bank 500 ft upstream from Big Run, 2.75 mi northwest of Glenville, and at mile 1.4.

DRAINAGE AREA.--144 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1937 to December 1951 (daily discharge and peaks). Monthly discharge only for October 1937 to February 1938, published in WSP 1305.

REVISED RECORDS.—WDR-US-2008: 1942.

GAGE.--Water-stage recorder. Datum of gage is 699.69 ft above NAVD 88 (700.23 ft above NGVD 29). Prior to Nov. 7, 1945, staff gage 200 ft downstream at same datum. Auxiliary staff or wire-weight gage 1.4 mi downstream at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS	
Water Years 1938 - 1952	
Annual mean	220
Highest daily mean	7,650 Jun 26, 1950
Lowest daily mean	0.10 Sep 18-29, 1939
Annual seven-day minimum	0.10 Sep 18, 1939
Maximum peak flow	12,100 Jun 25, 1950 (^a 28.63 ft stage)
Instantaneous low flow	0.10 Sep 18-29, 1939
10 percent duration	476
50 percent duration	69
90 percent duration	5.0

^a Backwater from Little Kanawha River.

03153000 STEER CREEK NEAR GRANTSVILLE, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 38°51'45", long 81°02'06" referenced to North American Datum of 1927, Calhoun County, WV, Hydrologic Unit 05030203, on right bank downstream side of highway bridge, 500 ft upstream from Rush Run, 5.5 mi southeast of Grantsville, and at mile 2.2.

DRAINAGE AREA.--166 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1937 to September 1938 (daily discharge, monthly discharges only October 1937 to February 1938, published in WSP 1305; no annual maxima), October 1938 to September 1960 (daily discharge and annual maxima), October 1960 to September 1975 (daily discharge and peaks), October 1975 to September 1976 (annual maximum gage height).

GAGE.--Water-stage recorder. Datum of gage is 678.00 ft above COE 12. Prior to Feb. 25, 1940, nonrecording gage at same site and datum. Since Oct. 1, 1962, water-stage recorder for Little Kanawha River at Grantsville (03153500) used as auxiliary gage. June 17, 1941 to Sept. 30, 1962, nonrecording gage about 1.0 mi downstream from base gage at different datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flood of March 1997 published in WDR WV-97-1, p. 8.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1997 reached a stage of 25.6 ft (from floodmarks), discharge, 10,800 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1938 - 1975		
Annual mean	221	
Highest daily mean	12,900	Mar 7, 1967
Lowest daily mean	0.00	Oct 12, 1953 ^a
Annual seven-day minimum	0.00	Sep 15, 1955
Maximum peak flow	^b 17,400	Mar 7, 1967 (^c 28.78 ft stage)
Instantaneous low flow	0.00	(a)
10 percent duration	527	
50 percent duration	64	
90 percent duration	2.7	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	0.00	
7 day 10 yr low flow	0.00	
30 day 5 yr low flow	0.22	
1 day 3 yr bio-based low flow	0.00	
4 day 3 yr bio-based low flow	0.00	
10 percent duration	529	
50 percent duration	55.5	
90 percent duration	2.1	
EPA harmonic mean	1.32	

^a No flow at times during 1954, 1955, 1957, 1959, 1965, 1966.

^b From rating curve extended above 11,000 ft³/s.

^c Backwater from Little Kanawha River.

03153500 LITTLE KANAWHA RIVER AT GRANTSVILLE, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 38°55'19", long 81°05'52" referenced to North American Datum of 1927, Calhoun County, WV, Hydrologic Unit 05030203, on the left bank, 1,000 ft downstream from highway bridge on State Route 16 at Grantsville, 1,200 ft downstream from Philip Run, 5.1 mi downstream from Steer Creek, 1.1 mi upstream from Leafbank Run, and at mile 79.9.

DRAINAGE AREA.--913 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1928 to September 1974 (daily discharge and peaks, monthly discharge only October to December 1928 published in WSP 1305), October 1974 to September 1978 (daily discharge and annual maxima), October 1978 to September 2002 (annual maxima), October 2002 to September 2008 (annual maximum gage height).

REVISED RECORDS.--WSP 1275: 1929(M), 1932-36.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 652.25 ft above NAVD 88 (VERTCON conversion of 652.81 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow partially regulated since 1968 by five floodwater detention reservoirs affecting 49.5 mi², and regulated since March 1979 by Burnsville Reservoir at mile 124.2.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--Maximum discharge, 35,100 ft³/s, Mar. 7, 1967, gage height, 43.9 ft, from floodmarks; no flow Sept. 10 to Nov. 16, 1930.

DISCHARGE SUMMARY STATISTICS	
Water Years 1929 - 1978	
Annual mean	1,328
Highest daily mean	33,500 Mar 7, 1967
Lowest daily mean	0.00 Sep 10, 1930 ^a
Annual seven-day minimum	0.00 Sep 10, 1930
Maximum peak flow	35,100 Mar 7, 1967 (^b 43.90 ft stage)
Instantaneous low flow	0.00 Sep 10, 1930 ^a
10 percent duration	3,290
50 percent duration	460
90 percent duration	35
Climatic Years 1930 – 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.63
7 day 10 yr low flow	1.00
30 day 5 yr low flow	9.09
1 day 3 yr bio-based low flow	0.78
4 day 3 yr bio-based low flow	0.90
10 percent duration	3,590
50 percent duration	482
90 percent duration	40.3
EPA harmonic mean	16.6

^a Also Sept. 11 to Nov. 16, 1930.

^b From floodmarks.

03154000 WEST FORK LITTLE KANAWHA RIVER AT ROCKSDALE, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 38°50'39", long 81°13'22" referenced to North American Datum of 1927, Calhoun County, WV, Hydrologic Unit 05030203, on right bank on State Route 11, 850 ft downstream from Henry Fork, 1,600 ft downstream from store at Rocksdale, 1 mi downstream from Barnes Run, 9 mi southwest of Grantsville, and at mile 14.1.

DRAINAGE AREA.--205 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1928 to September 1931, and October 1937 to September 1975 (daily discharge and peaks, monthly discharge only for some periods published in WSP 1305), October 1975 to September 2003 (annual maxima), October 2003 to September 2008 (annual maximum gage height).

REVISED RECORDS.--WSP 953: 1929-31, 1938(M), 1939. WSP 1275: 1950. WDR WV-97-1: 1953 (M).

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 657.85 ft above COE 12. Nov. 4, 1946 to June 15, 1966, crest-stage gage on bridge 800 ft upstream at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Maximum gage height, 31.55 ft, Mar. 2, 1997, from floodmarks.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1929 - 1975, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	59.4	166	344	425	531	582	428	245	116	83.9	83.7	46.2
Max	380	613	1,158	1,108	1,116	1,412	993	994	784	427	519	284
(WY)	(1955)	(1974)	(1973)	(1950)	(1939)	(1963)	(1939)	(1967)	(1950)	(1958)	(1958)	(1950)
Min	0.00	0.07	3.11	48.5	55.5	92.6	66.9	24.4	4.15	0.51	0.43	0.12
(WY)	(1931)	(1954)	(1954)	(1931)	(1954)	(1969)	(1971)	(1962)	(1966)	(1930)	(1965)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1929 - 1975	
Annual mean	258
Highest annual mean	404 1950
Lowest annual mean	113 1954
Highest daily mean	12,800 Apr 16, 1939
Lowest daily mean	0.00 Jul 26, 1930 ^a
Annual seven-day minimum	0.00 Jul 30, 1930
Maximum peak flow	^b 20,200 Apr 16, 1939 (^c 30.30 ft stage)
Instantaneous low flow	0.00 (a)
10 percent duration	604
50 percent duration	70
90 percent duration	3.1
Climatic Years 1930 – 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.00
7 day 10 yr low flow	0.01
30 day 5 yr low flow	0.44
1 day 3 yr bio-based low flow	0.00
4 day 3 yr bio-based low flow	0.00
10 percent duration	669
50 percent duration	69.6
90 percent duration	3.1
EPA harmonic mean	3.90

^a No flow at times during 1930, 1931, 1954, 1957, 1959, and 1960.

^b From rating curve extended above 13,000 ft³/s.

^c From floodmarks at location 800 ft upstream.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1970 to January 1974.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 29.1°C, July 23, 1972; minimum, less than 0.0°C, several days December 1970 and January 1971.

03154250 TANNER RUN AT SPENCER, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 38°48'11", long 81°21'58" referenced to North American Datum of 1927, Roane County, WV, Hydrologic Unit 05030203, on left bank 300 ft upstream from Miletree Run, and 0.8 mi west of Spencer.

DRAINAGE AREA.--2.82 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1969 to September 1977 (daily discharge and peaks), October 1993 to September 1998 (annual maxima).

GAGE.--Water-stage recorder April 1969 to September 1977, crest-stage gage October 1993 to September 1998. Elevation of gage is approximately 739.46 ft above NAVD 88 (VERTCON conversion of 740 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Maximum discharge, 1,520 ft³/s, May 14, 1995, gage height 8.20 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 2, 2002 reached a stage of 7.05 ft, discharge 1,040 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1969 - 1977		
Annual mean	3.96	
Highest daily mean	128	Mar 21, 1976
Lowest daily mean	0.00	Jun 5, 1969
Annual seven-day minimum	0.00	Jun 28, 1969
Maximum peak flow	^b 1,080	Aug 17, 1972 (5.96 ft stage)
Instantaneous low flow	0.00	(a)
10 percent duration	8.9	
50 percent duration	1.2	
90 percent duration	0.06	

^a No flow at times most years.

^b From rating curve extended above 260 ft³/s on basis of step-backwater analysis.

03154500 REEDY CREEK NEAR REEDY, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 38°57'40", long 81°23'25" referenced to North American Datum of 1927, Wirt County, WV, Hydrologic Unit 05030203, on left bank 0.2 mi downstream from Roundbottom Run, 1.0 mi north of Lucile, 4.5 mi northeast of Reedy, and at mile 8.5.

DRAINAGE AREA.--79.4 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1951 to September 1978 (daily discharge and peaks).

REVISED RECORDS.--WSP 1385: 1952-53(P). WDR WV-2001-1: 1955-57(M), 1961(M), 1962(M), 1963(P), 1966(P), 1967(P), 1968(M).

GAGE.--Water-stage recorder. Elevation of gage is approximately 649.48 ft above NAVD 88 (VERTCON conversion of 650 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1997 reached a stage of 15.37 ft (from floodmarks), discharge, 7,260 ft³/s; flood of Feb. 19, 2000 reached a stage of 16.20 ft (from floodmarks), discharge, 8,700 ft³/s; flood of May 7, 2002 reached a stage of 13.47 ft (from floodmarks), discharge, 4,670 ft³/s; flood discharges determined on basis of slope-conveyance rating extension.

DISCHARGE SUMMARY STATISTICS	
Water Years 1952 - 1978	
Annual mean	113
Highest daily mean	4,020 Mar 6, 1967
Lowest daily mean	0.00 Sep 13, 1959 ^a
Annual seven-day minimum	0.00 Sep 13, 1959
Maximum peak flow	^b 6,250 Feb 10, 1957 (14.70 ft stage)
Instantaneous low flow	0.00 (a)
10 percent duration	218
50 percent duration	19
90 percent duration	0.80
Climatic Years 1930 – 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.00
7 day 10 yr low flow	0.00
30 day 5 yr low flow	0.13
1 day 3 yr bio-based low flow	0.00
4 day 3 yr bio-based low flow	0.00
10 percent duration	220
50 percent duration	19.5
90 percent duration	0.8
EPA harmonic mean	1.65

^a No flow at times in 1959, 1960, 1965, 1966.

^b From slope-conveyance rating extension.

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 39°03'32", long 81°23'23" referenced to North American Datum of 1927, Wirt County, WV, Hydrologic Unit 05030203, on left bank at end of Washington Street in Elizabeth, 1.0 mi upstream from Tucker Creek, 2.3 mi northeast of Palestine, 2.4 mi upstream from old lock 3, and at mile 28.4.

DRAINAGE AREA.--1,516 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1915 to September 1922 (annual maximum gage height), July to September 1939 (fragmentary), October 1939 to September 2008 (daily discharge and peaks, monthly discharge only October 1939 to September 1941 published in WSP 1305).

REVISED RECORDS.--WSP 953: 1940(M). WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 584.94 ft above NAVD 88 (585.51 ft above NGVD 29). Prior to Feb. 17, 1950, water-stage recorders or nonrecording gages at old locks 3 and 4 at various datums. Auxiliary water-stage recorder 3.0 mi upstream from base gage at old lock 4 at datum 595.51 ft above NAVD 88 (596.08 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Prior to 1968, flow partially regulated by old dams 3, 4, and 5 that leak at variable rates. Flow partially regulated since 1968 by five floodwater-detention reservoirs affecting 49.5 mi². Flow regulated since March 1979 by Burnsville Reservoir at mile 124.2. Unregulated statistics of monthly mean data and summary statistics for water years 1940-1967 are also published.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 17, 1939, reached a stage of 32.25 ft, from floodmarks at old lock 4 at datum 602.6 ft above COE 12; discharge, about 53,000 ft³/s. Flood of 1897 reached a stage of about 24.4 ft, at old lock 4 at datum 602.6 ft above COE 12.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1940 - 1967, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	422	1,145	2,631	3,242	4,141	4,875	3,259	1,951	1,193	855	785	390
Max	3,010	4,401	6,366	7,468	8,437	10,940	7,233	7,573	4,820	5,069	3,756	2,401
(WY)	(1955)	(1963)	(1943)	(1952)	(1956)	(1963)	(1948)	(1967)	(1950)	(1958)	(1958)	(1950)
Min	6.14	2.41	84.8	552	499	1,428	677	323	50.5	14.7	9.85	14.4
(WY)	(1954)	(1954)	(1966)	(1967)	(1941)	(1966)	(1947)	(1962)	(1965)	(1966)	(1965)	(1953)

DISCHARGE SUMMARY STATISTICS

Water Years 1940 - 1967

Annual mean	2,065	
Highest annual mean	3,216	1950
Lowest annual mean	1,068	1966
Highest daily mean	48,600	Mar 8, 1967
Lowest daily mean	0.90	Jul 15, 1959
Annual seven-day minimum	1.3	Aug 30, 1965
Maximum peak flow	^a 50,700	Mar 7, 1967
	(^b 39.14 ft stage)	
Instantaneous low flow	^c 0.60	Jul 14, 1959
10 percent duration	5,440	
50 percent duration	694	
90 percent duration	56	

^a From rating curve extended above 39,000 ft³/s.

^b Backwater.

^c Filling pool above old lock 3.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1968 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	751	1,924	2,925	3,459	4,079	4,188	3,223	2,644	1,340	831	744	598
Max	3,933	8,281	9,517	8,946	8,985	9,934	7,210	7,490	5,710	2,450	2,778	2,941
(WY)	(1977)	(1986)	(1979)	(1994)	(1994)	(1997)	(1972)	(1996)	(1981)	(1990)	(1996)	(1971)
Min	75.3	137	309	444	827	873	774	243	81.3	51.1	28.5	29.2
(WY)	(1989)	(1999)	(1999)	(2000)	(2002)	(1969)	(1999)	(1982)	(1991)	(1999)	(1988)	(1999)

DISCHARGE SUMMARY STATISTICS

Water Years 1968 - 2008

Annual mean	2,211	
Highest annual mean	3,628	1994
Lowest annual mean	1,119	1969
Highest daily mean	^a 45,200	Mar 3, 1997
Lowest daily mean	15	Aug 21, 1987
Annual seven-day minimum	18	Jul 6, 1988
Maximum peak flow	^a 48,100	Mar 2, 1997
	(^b 40.04 ft stage)	
Instantaneous low flow	14	Aug 21, 1987
10 percent duration	5,570	
50 percent duration	928	
90 percent duration	116	

Climatic Years 1930 - 2002 (Wiley, 2006)

1 day 10 yr low flow	3.30
7 day 10 yr low flow	3.86
30 day 5 yr low flow	17.0

1 day 3 yr bio-based low flow	1.65
4 day 3 yr bio-based low flow	2.05
10 percent duration	5,740
50 percent duration	786
90 percent duration	74.3
EPA harmonic mean	93.0

^a Adjusted for backwater.

^b Backwater.

03155200 SOUTH FORK HUGHES RIVER AT MACFARLAN, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 39°04'40", long 81°11'25" referenced to North American Datum of 1927, Ritchie County, WV, Hydrologic Unit 05030203, near center of span on upstream side of highway bridge 0.4 mi east of Macfarlan, 1.5 mi upstream from Macfarlan Creek, 0.5 mi upstream from Dutchman Run, and at mile 10.8.

DRAINAGE AREA.--210 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1915 to September 1916, and October 1937 to December 1951 (daily discharge and peaks).

GAGE.--Wire-weight gage. Datum of gage is 635.28 ft above COE 12. Prior to Mar. 12, 1940, staff gage about 50 ft upstream at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--14 years, 306 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1915 - 1952		
Highest daily mean	8,940	Apr 13, 1948
Lowest daily mean	0.02	Oct 8, 1943
Annual seven-day minimum	0.02	Oct 7, 1943
Maximum peak flow	^a 12,100	Jun 25, 1950 (^b 29.3 ft stage)
Instantaneous low flow	0.02	Oct 8-13, 1943
10 percent duration	730	
50 percent duration	90	
90 percent duration	6.4	

^a From rating curve extended above 6,500 ft³/s on basis of slope-area measurements at gage heights 21.7 and 27.91 ft.

^b From graph based on gage readings.

03155405 NORTH FORK HUGHES RIVER NEAR CAIRO, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 39°13'08", long 81°06'00" referenced to North American Datum of 1927, Ritchie County, WV, Hydrologic Unit 05030203.

DRAINAGE AREA.--92 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 2002 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 669.43 ft above NAVD 88 (VERTCON conversion of 670.0 ft above NGVD 29).

REMARKS.--Dam name: North Fork Hughes River No. 21-C

Normal Pool = 42.0 ft

Emergency Spillway = 67.0 ft

Top of Dam = 90.4 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 57.64 ft, Nov. 20, 2003; minimum gage height, less than 33.0 ft many days December 2002 to April 2003 during initial filling of the reservoir.

03155410 NORTH BEND RUN NEAR CAIRO, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 39°13'22", long 81°07'01" referenced to North American Datum of 1927, Ritchie County, WV, Hydrologic Unit 05030203, on right bank of North Bend State Park unnamed run, 1,600 ft southwest of Park Office, and 1,200 ft upstream from confluence with North Fork Hughes River.

DRAINAGE AREA.--0.14 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1985 to September 1987 (daily discharge).

GAGE.--Water-stage recorder and concrete control. Datum of gage is approximately 719.42 ft above NAVD 88 (VERTCON conversion of 720 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1985 - 1987, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	0.07	0.48	0.26	0.17	0.37	0.26	0.33	0.07	0.04	0.05	0.01	0.03
Max	0.09	0.68	0.31	0.18	0.56	0.36	0.51	0.08	0.06	0.08	0.03	0.06
(WY)	(1986)	(1986)	(1987)	(1987)	(1986)	(1986)	(1987)	(1986)	(1986)	(1985)	(1985)	(1987)
Min	0.04	0.28	0.22	0.15	0.18	0.17	0.16	0.06	0.02	0.00	0.00	0.01
(WY)	(1987)	(1987)	(1986)	(1986)	(1987)	(1987)	(1986)	(1987)	(1987)	(1987)	(1987)	(1985)

DISCHARGE SUMMARY STATISTICS

Water Years 1985 - 1987	
Annual mean	0.18
Highest annual mean	0.20 1986
Lowest annual mean	0.15 1987
Highest daily mean	5.4 Nov 4, 1985
Lowest daily mean	0.00 Aug 13, 1985 ^a
Annual seven-day minimum	0.00 Sep 14, 1986
Maximum peak flow	17 Nov 4, 1985 ^b (3.14 ft stage)
Instantaneous low flow	0.00 (c)
10 percent duration	0.38
50 percent duration	0.08
90 percent duration	0.00

^a For some days in August 1985, August and September 1986, and June to September 1987.

^b Also Sept. 7, 1987.

^c No flow at times many days each year.

03155450 BIG ISLAND RUN NEAR ELIZABETH, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 39°05'00", long 81°15'40" referenced to North American Datum of 1927, Ritchie County, WV, Hydrologic Unit 05030203, at culvert on State Route 53, and 7.5 mi east of Elizabeth.

DRAINAGE AREA.--3.52 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1974, and October 1975 to September 1977 (annual maxima). Water year 1965 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,690 ft³/s, Aug. 4, 1971.

03155500 HUGHES RIVER AT CISCO, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 39°07'07", long 81°16'39" referenced to North American Datum of 1927, Ritchie County, WV, Hydrologic Unit 05030203, on right bank 100 ft downstream from confluence of North and South Forks, 1.0 mi upstream from Cisco, 5.0 mi south of Petroleum, and at mile 14.0.

DRAINAGE AREA.--453 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1915 to September 1920 (daily mean and annual maximum gage height), October 1920 to September 1922 (daily mean gage height), October 1928 to September 1929 (daily discharge and annual maxima), October 1929 to September 1931, and October 1938 to September 1994 (daily discharge and peaks). Monthly discharge only for some periods, published in WSP 1305. Prior to October 1965, published as Hughes River at Cisco.

REVISED RECORDS.--WSP 893: 1939. WSP 1113: 1947. WDR WV-97-1: Drainage area, 1948(M), 1950(M), 1951(P), 1955(M), 1958(M), 1962(M), 1963(P), 1966-68(P), 1970-72(P), 1974-82(P), 1984-87(P), 1989-91(P). WDR-US-2008: 1948.

GAGE.--Water-stage recorder. Datum of gage is 607.92 ft above COE 12. Prior to Sept. 30, 1931, nonrecording gage at site 0.9 mi downstream, and Mar. 5, 1939 to Sept. 30, 1945, nonrecording gage 1.0 mi downstream, both at datum 2.56 ft lower. Oct 1, 1945 to June 30, 1946, nonrecording gage at bridge across mouth of North Fork at present datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1997 reached a stage of 21.62 ft, 14,000 ft³/s, published in WDR WV-97-1, p. 8.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1929 - 1994, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	162	395	777	922	1,117	1,183	934	630	325	224	206	124
Max	1,346	2,196	2,775	3,025	2,258	3,485	2,659	2,350	1,794	2,249	713	1,035
(WY)	(1977)	(1986)	(1979)	(1994)	(1994)	(1963)	(1948)	(1967)	(1950)	(1958)	(1989)	(1971)
Min	0.00	0.00	1.13	19.8	121	293	117	61.1	5.72	1.01	0.12	0.01
(WY)	(1931)	(1931)	(1931)	(1931)	(1941)	(1987)	(1971)	(1930)	(1930)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS		
Water Years 1929 - 1994		
Annual mean	581	
Highest annual mean	972	1994
Lowest annual mean	260	1954
Highest daily mean	26,400	Apr 13, 1948
Lowest daily mean	0.00	Jul 26, 1930 ^a
Annual seven-day minimum	0.00	Sep 4, 1930
Maximum peak flow	28,100	Jun 26, 1950 (32.69 ft stage)
Instantaneous low flow	0.00	Jul 26, 1930 ^a
Annual runoff (cfsm)	1.28	
Annual runoff (inches)	17.42	
10 percent duration	1,450	
50 percent duration	177	
90 percent duration	11	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	0.64	
7 day 10 yr low flow	0.73	
30 day 5 yr low flow	2.97	
1 day 3 yr bio-based low flow	0.37	
4 day 3 yr bio-based low flow	0.48	
10 percent duration	1,480	
50 percent duration	174	
90 percent duration	11.6	
EPA harmonic mean	18.5	

^a Also Aug. 2-6, Sept. 4 to Dec. 5, 1930.

03155520 ROBINSON RUN NEAR PETROLEUM, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 39°13'45", long 81°13'27" referenced to North American Datum of 1927, Ritchie County, WV, Hydrologic Unit 05030203, on right bank of unnamed run, 1.0 mi south of Nutter Farm on State Secondary Route 18, 1,000 ft upstream from confluence with Goose Creek.

DRAINAGE AREA.--0.07 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1985 to September 1987 (daily discharge).

GAGE.--Water-stage recorder and concrete control. Datum of gage is approximately 759.43 ft above NAVD 88 (VERTCON conversion of 760 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1985 - 1987, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	0.01	0.20	0.12	0.08	0.16	0.13	0.18	0.05	0.01	0.02	0.00	0.01
Max	0.01	0.26	0.16	0.09	0.23	0.16	0.22	0.05	0.02	0.03	0.00	0.02
(WY)	(1986)	(1986)	(1987)	(1987)	(1986)	(1986)	(1987)	(1987)	(1986)	(1986)	(1987)	(1987)
Min	0.01	0.14	0.07	0.07	0.09	0.09	0.14	0.04	0.00	0.01	0.00	0.00
(WY)	(1987)	(1987)	(1986)	(1986)	(1987)	(1987)	(1986)	(1986)	(1987)	(1987)	(1986)	(1985)

DISCHARGE SUMMARY STATISTICS		
Water Years 1985 - 1987		
Annual mean	0.08	
Highest annual mean	0.09	1986
Lowest annual mean	0.07	1987
Highest daily mean	2.2	Nov 4, 1985
Lowest daily mean	0.00	(a)
Annual seven-day minimum	0.00	Jun 21, 1985
Maximum peak flow	12	Apr 6, 1986 (2.97 ft stage)
Instantaneous low flow	0.00	(a)
10 percent duration	0.17	
50 percent duration	0.03	
90 percent duration	0.00	

^a No flow many days each year.

0315525 GOOSE CREEK NEAR PETROLEUM, WV

Upper Ohio-Little Kanawha Basin
Little Kanawha Subbasin

LOCATION.--Lat 39°12'47", long 81°13'52" referenced to North American Datum of 1927, Ritchie County, WV, Hydrologic Unit 05030203, on right upstream side of bridge, on County Route 18, 2.7 mi south of US Route 50, 2 mi south of Nutter Farm, 2.5 mi northeast of Petroleum.

DRAINAGE AREA.--25.3 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1998 to September 2007 (annual maxima). Prior to October 1999, published as Goose Creek near Nutter Farm.

REVISED RECORDS.--WDR WV-2004-1: 2001(M).

GAGE.--Crest-stage gage. Datum of gage is approximately 719.42 ft above NAVD 88 (VERTCON conversion of 720 ft above NGVD 29, from topographic map).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,700 ft³/s, June 28, 1998, gage height, 28.13 ft, from bridge contraction measurement.

03159530 OHIO RIVER AT BELLEVILLE DAM, WV

Upper Ohio-Little Kanawha Basin
Upper Ohio-Shade Subbasin

LOCATION.--Lat 39°07'08", long 81°44'33" referenced to North American Datum of 1927, Wood County, WV, Hydrologic Unit 05030202, at right end of Belleville Dam on Ohio River, at Reedsville, Ohio, 1.7 mi upstream from Wood-Jackson County line, 4.6 mi downstream from Hocking River, and at mile 203.9, measured downstream from Pittsburgh, PA.

DRAINAGE AREA.--39,360 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1974 to September 1985 (daily mean and annual maximum discharge).

GAGE.--Gate-opening and water-stage recorder. Headwater reference gage 0.4 mi upstream at datum 570.00 ft Ohio River Datum. Tailwater reference gage 0.5 mi downstream at datum 22.00 ft lower.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Daily discharge computed from head and tailwater elevations, gate openings, and lockages. Flow partially regulated by Ohio River system of locks, dams, and reservoirs.

DISCHARGE SUMMARY STATISTICS		
Water Years 1975 - 1985		
Annual mean	59,340	
Highest daily mean	390,000	Jan 27, 1978
Lowest daily mean	4,830	Oct 15, 1982
Annual seven-day minimum	6,410	Sep 2, 1976
10 percent duration	127,000	
50 percent duration	44,400	
90 percent duration	13,700	

03159700 GRASSLICK RUN NEAR RIPLEY, WV

Upper Ohio-Little Kanawha Basin
Upper Ohio-Shade Subbasin

LOCATION.--Lat 38°45'53", long 81°41'40" referenced to North American Datum of 1927, Jackson County, WV, Hydrologic Unit 05030202, at culvert on U.S. Highway 21, 1.0 mi upstream from Burnt Run, and 3.8 mi southeast of Ripley.

DRAINAGE AREA.--0.70 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1977 (annual maxima).

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 615 ft³/s, July 19, 1971, gage height, 12.00 ft.

03159750 TUG FORK AT STATTS MILLS, WV

Upper Ohio-Little Kanawha Basin
Upper Ohio-Shade Subbasin

LOCATION.--Lat 38°44'37", long 81°37'32" referenced to North American Datum of 1983, Jackson County, WV, Hydrologic Unit 05030202, on the left, upstream side of bridge over Tug Fork, in the town of Statts Mills.

DRAINAGE AREA.--52.3 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 2001 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 590.92 ft above NAVD 88 (VERTCON conversion of 591.5 ft above NGVD 29).

REMARKS.--Dam name: Mill Creek No. 13

Normal Pool = 50.7 ft (Normal storage = 2,830 acre-ft)

Top of Riser = 56.9 ft

Emergency Spillway = 79.9 ft

Top of Dam = 93.4 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 70.73 ft, May 28, 2004; minimum gage height, less than 43.77 ft, Dec. 7, 2001.

03159870 OHIO RIVER AT RACINE DAM, WV

Upper Ohio-Little Kanawha Basin
Upper Ohio-Shade Subbasin

LOCATION.--Lat 38°55'00", long 81°54'44" referenced to North American Datum of 1927, Mason County, WV, Hydrologic Unit 05030202, at left end of Racine Dam on Ohio River, 3.6 mi south of Racine, Ohio, and at mile 237.5, measured downstream from Pittsburgh, PA.

DRAINAGE AREA.--40,130 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1979 to September 1980 (daily discharge).

GAGE.--Gate opening and water-stage recorder. Headwater reference gage 0.4 mi upstream at datum 547.37 ft above NAVD 88 (VERTCON conversion of 548.00 ft above NGVD 29). Tailwater reference gage 0.5 mi downstream at datum 10.00 ft lower.

REMARKS.--Daily discharge computed from head, gage openings, and lockages. Flow partially regulated by Ohio River system of locks, dams, and reservoirs.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 228,000 ft³/s, Apr. 2, 1980; minimum daily, 11,000 ft³/s, July 21, 1980.

03160000 OHIO RIVER AT POMEROY, OH

Upper Ohio-Little Kanawha Basin
Upper Ohio-Shade Subbasin

LOCATION.--Lat 38°50'25", long 82°08'30" referenced to North American Datum of 1927, Meigs County, OH, Hydrologic Unit 05030202, 1,200 ft upstream from Kanawha River, and at mile 265.3 (measured downstream from Pittsburgh, PA).

DRAINAGE AREA.--40,190 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February to April 1936, December 1936 to March 1937, February 1940 to August 1968 (daily discharge except for low-water periods after August 1952). Gage-height records collected in this vicinity since 1889 are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 513.72 ft above NAVD 88, levels by U.S. Army Corps of Engineers (514.10 ft above Ohio River 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 mi upstream at same datum. Auxiliary water-stage recorder near left bank on downstream side of pier of bridge on U.S. Highway 33 at Pomeroy, 13.8 mi upstream.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow partially regulated by Ohio River system of locks, dams, and reservoirs.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 633,000 ft³/s, Mar. 30, 1913, gage height, 70.1 ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1936 - 1968

Highest daily mean	550,000	Jan 27, 1937
Lowest daily mean	3,800	Dec 8, 1947
Annual seven-day minimum	4,790	Sep 19, 1946
Maximum peak flow	554,000	Jan 27, 1937 (67.70 ft stage)
10 percent duration	135,000	
50 percent duration	35,700	
90 percent duration	9,600	

03176400 RICH CREEK NEAR PETERSTOWN, WV

Kanawha Basin
Middle New Subbasin

LOCATION.--Lat 37°24'00", long 80°48'20" referenced to North American Datum of 1927, Monroe County, WV, Hydrologic Unit 05050002, 1,000 ft downstream from Brush Creek, and at mile 2.8.

DRAINAGE AREA.--50.6 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1941 to December 1950 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is 1,565.47 ft above NAVD 88 (VERTCON conversion of 1,565.94 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Records published as 03177000 Rich Creek near Peterstown in WSP 1675 and possibly other reports.

DISCHARGE SUMMARY STATISTICS

Water Years 1942 - 1951

Annual mean	36.7	
Highest daily mean	1,180	Feb 13, 1948
Lowest daily mean	1.6	Dec 16, 1943
Annual seven-day minimum	1.9	Dec 15, 1943
Maximum peak flow	^a 2,660	Aug 3, 1948 (6.75 ft stage)
10 percent duration	83	
50 percent duration	14	
90 percent duration	3.4	

^a From rating curve extended above 900 ft³/s by logarithmic plotting.

03177100 PAYNE BRANCH NEAR OAKVALE, WV

Kanawha Basin
Middle New Subbasin

LOCATION.--Lat 37°21'28", long 80°58'40" referenced to North American Datum of 1927, Mercer County, WV, Hydrologic Unit 05050002, on left upstream side of CR 219/3 bridge over Payne Branch, 1.8 mi northwest of Oakvale, and 4 mi east of Princeton.

DRAINAGE AREA.--8.64 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1999 to September 2008 (annual maxima).

REVISED RECORDS.--WDR WV-2004-1: 2001-03(M). WRD-US-2006: 2002(M).

GAGE.--Crest stage gage. Datum of gage is approximately 1,959.62 ft above NAVD 88 (VERTCON conversion of 1,960 feet above NGVD 29, from topographic map).

REMARKS.--A second pipe was installed Nov. 1, 2000, to obtain readings at lower stages.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,760 ft³/s, Jan. 20, 2004, gage height 6.57 ft.

03177500 INDIAN CREEK AT INDIAN MILLS, WV

Kanawha Basin
Middle New Subbasin

LOCATION.--Lat 37°31'55", long 80°49'10" referenced to North American Datum of 1927, Summers County, WV, Hydrologic Unit 05050002, 50 ft upstream from Bradshaw Creek, and at mile 2.2.

DRAINAGE AREA.--189 mi², including that of Bradshaw Creek.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1941 to December 1950 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is 1,472.04 ft above NAVD 88 (VERTCON conversion of 1,472.54 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
	Water Years 1942 - 1951	
Annual mean	128	
Highest daily mean	3,580	Feb 14, 1948
Lowest daily mean	2.2	Sep 27, 1944
Annual seven-day minimum	3.2	Oct 3, 1946
Maximum peak flow	5,080	Feb 14, 1948 (9.68 ft stage)
Instantaneous low flow	1.9	Sep 25, 1944 ^a
10 percent duration	300	
50 percent duration	52	
90 percent duration	8.2	

^a Also Oct. 8, 1947.

03178000 BLUESTONE RIVER NEAR SPANISHBURG, WV

Kanawha Basin
Middle New Subbasin

LOCATION.--Lat 37°26'00", long 81°06'40" referenced to North American Datum of 1927, Mercer County, WV, Hydrologic Unit 05050002, on left bank, at highway bridge on U.S. Route 19 and 21, 1.4 mi upstream from Rich Creek, 1.7 mi downstream from Backlick Creek.

DRAINAGE AREA.--199 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1944 to September 1952, October 1996 to September 1998 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is 2,050.72 ft above NAVD 88 (VERTCON conversion of 2,051.13 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 2001 reached a stage of 18.3 ft, discharge, 6,000 ft³/s, published in WDR WV-2001-1, p. 8. Flood of May 2002 reached a stage of 17.54 ft, discharge, approximately 5,000 ft³/s, published in WDR WV-2002-1, p. 9.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1945 - 1998, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	44.8	96.5	264	376	470	478	329	274	156	77.5	83.3	47.7
Max	123	294	467	641	889	603	621	431	294	233	181	106
(WY)	(1945)	(1950)	(1949)	(1946)	(1998)	(1948)	(1948)	(1945)	(1950)	(1950)	(1949)	(1950)
Min	12.6	14.1	30.4	46.3	141	298	138	72.5	36.6	24.1	21.0	13.1
(WY)	(1947)	(1947)	(1947)	(1948)	(1947)	(1950)	(1945)	(1947)	(1947)	(1947)	(1946)	(1946)

DISCHARGE SUMMARY STATISTICS

Water Years 1945 - 1998	
Annual mean	224
Highest annual mean	279 1950
Lowest annual mean	158 1947
Highest daily mean	5,250 Feb 2, 1950
Lowest daily mean	5.7 Nov 3, 1946
Annual seven-day minimum	6.2 Nov 1, 1946
Maximum peak flow	6,920 Jan 8, 1946 (18.36 ft stage)
Instantaneous low flow	3.1 Jan 7, 1948
Annual runoff (cfsm)	1.12
Annual runoff (inches)	15.27
10 percent duration	501
50 percent duration	120
90 percent duration	23

03178150 MIDDLE FORK BRUSH CREEK AT EDISON, WV

Kanawha Basin
Middle New Subbasin

LOCATION.--Lat 37°18'22", long 81°09'54" referenced to North American Datum of 1927, Mercer County, WV, Hydrologic Unit 05050002.

DRAINAGE AREA.--2.05 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 2002 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,460.67 ft above NAVD 88 (VERTCON conversion of 2461.0 ft above NGVD 29).

REMARKS.--Dam name: Brush Creek No. 19-A

Surface area: 68 acres

Normal Pool = 22.0 ft (Normal Storage = 968 acre-ft)

Top of Riser = 23.7 ft

Emergency Spillway = 28.0 ft

Top of Dam = 37.6 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 24.47 ft, Nov. 19, 2003; minimum gage height, <15.05 ft at times Nov. 12 to Dec. 29, 2005.

03178500 CAMP CREEK NEAR CAMP CREEK, WV

Kanawha Basin
Middle New Subbasin

LOCATION.--Lat 37°30'15", long 81°07'40" referenced to North American Datum of 1927, Mercer County, WV, Hydrologic Unit 05050002, on left bank 1,500 ft downstream from Mash Fork, 2.1 mi upstream from Camp Creek, and at mile 4.0.

DRAINAGE AREA.--32.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1946 to December 1971 (daily discharge and peaks), October 1993 to September 1998 (annual maxima).

REVISED RECORDS.--WSP 1435: 1948, 1950(P), 1955.

GAGE.--Water-stage recorder. Elevation of gage is approximately 2,049.59 ft above NAVD 88 (VERTCON conversion of 2,050 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--25 years, 43.3 ft³/s, 18.38 in/yr.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Maximum discharge, 5,610 ft³/s, Jan. 19, 1996, gage height 6.77 ft, highest since 1947.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 2001 reached a stage of 7.15 ft, discharge, 4,800 ft³/s, published in WDR WV-2001-1, p. 8. Flood of May 2002 reached a stage of 6.29 ft, discharge, 3,400 ft³/s, published in WDR WV-2002-1, p. 9.

DISCHARGE SUMMARY STATISTICS

	Water Years 1947 - 1972	
Highest daily mean	1,900	Jan 29, 1957
Lowest daily mean	0.00	Aug 1, 1952 ^a
Annual seven-day minimum	0.00	Jul 29, 1955
Maximum peak flow	3,750	Dec 30, 1969 (6.57 ft stage)
Instantaneous low flow	0.00	(a)
10 percent duration	103	
50 percent duration	16	
90 percent duration	0.70	

^a No flow at time during 1952-56, 1959, 1965.

03179000 BLUESTONE RIVER NEAR PIPESTEM, WV

Kanawha Basin
Middle New Subbasin

LOCATION.--Lat 37°32'38", long 81°00'38" referenced to North American Datum of 1927, Summers County, WV, Hydrologic Unit 05050002, on left bank 1.2 mi downstream from Mountain Creek, 2.5 mi west of Pipestem, and at mile 10.6.

DRAINAGE AREA.--395 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1950 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 1705: 1959. WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,526.91 ft above NAVD 88 (VERTCON conversion of 1,527.35 ft above NGVD 29, from U.S. Army Corps of Engineers bench mark).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1950 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	151	263	473	668	900	1,045	820	634	313	182	132	103
Max	796	1,306	1,485	2,107	2,148	3,276	2,855	1,499	1,163	1,172	557	667
(WY)	(1977)	(2004)	(1973)	(1957)	(1957)	(1955)	(1987)	(2001)	(1979)	(2001)	(2003)	(2004)
Min	16.7	20.0	33.8	53.7	187	188	174	154	54.2	40.5	23.8	13.9
(WY)	(1954)	(1954)	(1966)	(1966)	(2002)	(1988)	(1986)	(1964)	(1999)	(1999)	(1988)	(1955)

DISCHARGE SUMMARY STATISTICS

Water Years 1950 - 2008	
Annual mean	471
Highest annual mean	773 2003
Lowest annual mean	178 1988
Highest daily mean	15,900 Apr 5, 1977
Lowest daily mean	7.0 Sep 22, 1955
Annual seven-day minimum	8.5 Sep 18, 1955
Maximum peak flow	19,300 Apr 5, 1977
Maximum peak stage	(15.82 ft stage)
Instantaneous low flow	7.0 Sep 21, 1955 ^a
Annual runoff (cfsm)	1.20
Annual runoff (inches)	16.30
10 percent duration	1,100
50 percent duration	211
90 percent duration	38
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	11.1
7 day 10 yr low flow	12.6
30 day 5 yr low flow	22.7
1 day 3 yr bio-based low flow	12.0
4 day 3 yr bio-based low flow	12.5
10 percent duration	1,110
50 percent duration	198
90 percent duration	33.4
EPA harmonic mean	90.3

^a Also Sept. 22, 23, 30, 1955.

03179500 BLUESTONE RIVER AT LILLY, WV

Kanawha Basin
Middle New Subbasin

LOCATION.--Lat 37°35'05", long 80°57'55" referenced to North American Datum of 1927, Summers County, WV, Hydrologic Unit 05050002, 1,200 ft downstream from Little Bluestone River, and at mile 5.0.

DRAINAGE AREA.--438 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1908 to September 1916, and October 1929 to March 1948 (daily discharge and peaks).

GAGE.--Staff gage. Datum of gage is 1,433.21 ft above NAVD 88 (VERTCON conversion of 1,433.7 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--26 years, 472 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1908 - 1948		
Highest daily mean	13,600	Feb 14, 1948
Lowest daily mean	2.0	Aug 10, 1915
Annual seven-day minimum	3.6	Oct 5, 1930
Maximum peak flow	^a 16,600	Mar 25, 1935 (^b 11.00 ft stage)
Instantaneous low flow	<2.0	Aug 10, 1915
10 percent duration	1,090	
50 percent duration	189	
90 percent duration	27	

^a From rating extended above 5,000 ft³/s by logarithmic plotting.

^b From floodmarks.

03180000 NEW RIVER AT BLUESTONE DAM, WV

Kanawha Basin
Middle New Subbasin

LOCATION.--Lat 37°38'43", long 80°53'02" referenced to North American Datum of 1927, Summers County, WV, Hydrologic Unit 05050002, on right bank 0.3 mi downstream from Bluestone Dam, 0.7 mi upstream from Greenbrier River, 2.0 mi upstream from Hinton, at New River Mile 64.5 and Kanawha River mile 161.5.

DRAINAGE AREA.--4,602 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1923 to September 1969, and September 1975 to September 1983 (daily discharge and annual maxima). Prior to October 1947 published as New River near Hinton. Monthly discharge only October and November 1923, published in WSP 1305.

REVISED RECORDS.--WSP 713: 1925(M). WSP 893: 1930(M), 1935(M), 1936(M), WSP. 1335: 1929, 1933. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,359.45 ft above NAVD 88 (VERTCON conversion of 1,360.00 ft above NGVD 29). Dec. 1, 1923 to Nov. 19, 1934, nonrecording gage, and Nov. 20, 1934 to July 1, 1947, water-stage recorder, at site 1.3 mi upstream at datum 8.49 ft higher. Auxiliary water-stage recorder 0.7 mi downstream from present base gage.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow regulated since 1939 by Claytor Lake (03169000) and since 1949 by Bluestone Lake (03179800).

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--54 years, 5,602 ft³/s, 16.53 in/yr, unadjusted.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 21, and May 23, 1901 reached a stage of 24.2 ft (former site and datum), discharge, 234,000 ft³/s, highest since 1878.

DISCHARGE SUMMARY STATISTICS		
Water Years 1939 - 1983		
Highest daily mean	153,000	Aug 15, 1940
Lowest daily mean	20	Dec 17, 1967
Annual seven-day minimum	1,070	Oct 21, 1941
Maximum peak flow	^a 232,000	Aug 15, 1940 (^b 25.70 ft stage)
Instantaneous low flow	^c 10	Aug 30, 1948
10 percent duration	11,000	
50 percent duration	3,860	
90 percent duration	1,620	

- ^a From rating curve extended above 70,000 ft³/s on basis of slope-area measurement.
- ^b From floodmarks.
- ^c Estimated during construction of Bluestone Dam.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May 1953 to September 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 30.0°C, July 17, 1977, July 21, 1980; minimum, 0.0°C on several days during winter months most years.

03180300 EAST FORK GREENBRIER RIVER AT FRANK, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 38°32'34", long 79°48'24" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, on right bank at Frank, 2,400 ft downstream from Johns Run, 1.0 mi east of Durbin, and at mile 1.5.

DRAINAGE AREA.--67.1 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1987 to July 1994 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is approximately 2,749.77 ft above NAVD 88 (VERTCON conversion of 2,750 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Natural flow of stream affected by diversion for industrial use just upstream from station.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1988 - 1994, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	41.7	83.8	178	185	193	301	181	185	43.1	21.2	33.6	20.7
Max	108	176	294	267	479	506	288	342	106	37.5	146	44.1
(WY)	(1990)	(1994)	(1992)	(1990)	(1994)	(1993)	(1993)	(1994)	(1989)	(1989)	(1989)	(1989)
Min	2.46	21.5	57.7	110	43.1	149	86.5	43.1	8.59	4.17	2.70	7.12
(WY)	(1992)	(1992)	(1989)	(1993)	(1993)	(1988)	(1988)	(1991)	(1991)	(1988)	(1988)	(1988)

DISCHARGE SUMMARY STATISTICS

Water Years 1988 - 1994	
Annual mean	118
Highest annual mean	127 1990
Lowest annual mean	109 1993
Highest daily mean	4,880 May 8, 1994
Lowest daily mean	0.15 Sep 2, 1993
Annual seven-day minimum	0.44 Aug 28, 1993
Maximum peak flow	8,600 May 8, 1994 (6.61 ft stage)
Instantaneous low flow	0.00 Aug 27, 1993 ^a
10 percent duration	267
50 percent duration	58
90 percent duration	5.7

^a Also Aug. 28, Sept. 1-3, 1993.

03180350 WEST FORK GREENBRIER RIVER TRIBUTARY AT DURBIN, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 38°33'30", long 79°49'52" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, at culvert on U.S. Highway 250, 0.9 mile northeast of Durbin, and at mile 0.2.

DRAINAGE AREA.--1.13 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1977 (annual maxima). Water years 1966 and 1969 published in OFR 80-560.

REVISED RECORDS.--WDR WV-76-1: 1975(M).

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 137 ft³/s, Mar. 6, 1967, gage height, 6.15 ft.

03180500 GREENBRIER RIVER AT DURBIN, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 38°32'37", long 79°50'00" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, on left bank at Durbin, 500 ft downstream from confluence of East and West Forks, and at mile 153.4.

DRAINAGE AREA.--133 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1943 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-82-1: Drainage area. WDR WV-97-1: 1944-46(M), 1951(M), 1953(M), 1955(P), 1956(M), 1958(M), WDR WV-2002-1: 1999(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,699.50 ft above NAVD 88 (2,699.71 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1943 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	107	226	327	371	425	576	433	335	165	103	86.3	70.4
Max	665	1,336	796	1,023	1,033	1,255	1,041	1,153	652	541	515	427
(WY)	(1977)	(1986)	(1973)	(1996)	(1994)	(1963)	(1958)	(1996)	(2003)	(1996)	(1996)	(1996)
Min	2.06	10.1	46.6	51.7	120	208	142	77.9	21.9	10.9	6.01	1.82
(WY)	(1954)	(1954)	(1961)	(1981)	(1993)	(2006)	(1955)	(1976)	(1991)	(1988)	(1999)	(1953)

DISCHARGE SUMMARY STATISTICS		
Water Years 1943 - 2007		
Annual mean	268	
Highest annual mean	472	1996
Lowest annual mean	164	1999
Highest daily mean	13,200	Nov 4, 1985
Lowest daily mean	0.50	Sep 29, 1953 ^a
Annual seven-day minimum	0.51	Sep 28, 1953
Maximum peak flow	^b 37,100	Nov 4, 1985 (^c 15.82 ft stage)
Instantaneous low flow	0.00	Oct 2, 3, 1968
Annual runoff (cfsm)	2.01	
Annual runoff (inches)	27.31	
10 percent duration	620	
50 percent duration	142	
90 percent duration	17	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	1.71	
7 day 10 yr low flow	2.27	
30 day 5 yr low flow	7.36	
1 day 3 yr bio-based low flow	1.58	
4 day 3 yr bio-based low flow	1.79	
10 percent duration	615	
50 percent duration	138	
90 percent duration	16.5	
EPA harmonic mean	36.4	

^a Also Sept. 30 to Oct. 4, 1953, Oct. 2, 3, 1968, and Sept. 11, 1995.

^b From rating curve extended above 5,000 ft³/s on basis of slope-area measurement of peak flow, highest since 1896.

^c From floodmark.

03180530 BRUSH RUN NEAR BARTOW, WV

Kanawha River
Greenbrier Subbasin

LOCATION.--Lat 38°30'30", long 79°47'03" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05020003, on left bank 12 ft upstream from culvert on State Route 28, 2.3 mi south of Bartow, and at mile 4.2.

DRAINAGE AREA.--1.28 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1975, October 1976 September 1977 (annual maxima). Water years 1968, 1969, and 1973 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 200 ft³/s, Oct. 9, 1976, gage height, 6.28 ft.

03180680 COOPER RUN NEAR GREEN BANK, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 38°24'32", long 79°48'43" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, at culvert on Secondary Route 6, 0.4 mi upstream from mouth, and 1.3 mi southeast of Green Bank.

DRAINAGE AREA.--1.52 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1977 (annual maxima). Water year 1965 published in OFR 80-560.

GAGE.--Crest-stage gage. Datum of gage is 2,700.73 ft above NAVD 88 (VERTCON conversion of 2,700.90 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 240 ft³/s, Oct. 5, 1972, gage height, 7.20 ft.

03181000 MCLAUGHLIN SPRING AT EDRA, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 38°16'25", long 80°06'30" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, 0.5 mi north of Edray State Trout Hatchery at Edray, and 4 mi north of Marlinton.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1947 to September 1958 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 2,399.73 ft above NAVD 88 (VERTCON conversion of 2,400 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1945 - 1958

Highest daily mean	112	Mar 5, 1955
Lowest daily mean	0.27	Sep 27, 1949
Annual seven-day minimum	0.33	Oct 15, 1953
Maximum peak flow	152	Mar 5, 1955 (2.35 ft stage)
Instantaneous low flow	0.27	Sep 27, 1949
10 percent duration	21	
50 percent duration	6.3	
90 percent duration	0.80	

03181200 INDIAN DRAFT NEAR MARLINTON, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 38°16'48", long 80°04'31" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, on left bank at highway bridge, and 4.2 mi northeast of Marlinton.

DRAINAGE AREA.--3.06 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1968 to September 1977 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-72: 1971(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is approximately 2,439.74 ft above NAVD 88 (VERTCON conversion of 2,440 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1968 - 1977		
Annual mean	5.37	
Highest daily mean	230	Oct 8, 1976
Lowest daily mean	0.02	Sep 30, 1968 ^a
Annual seven-day minimum	0.03	Sep 25, 1968
Maximum peak flow	1,350	Oct 8, 1976 (6.59 ft stage)
10 percent duration	12	
50 percent duration	1.9	
90 percent duration	0.18	

^a Also Aug. 7, 8, 1970.

03181500 GREENBRIER R AT MARLINTON, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 38°14'10", long 80°05'05" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, at Chesapeake & Ohio Railway bridge, 1.5 mi northeast of Marlinton, just below mouth of Stoney Creek.

DRAINAGE AREA.--408 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1908 to March 1909 (daily discharge), April 1909 to September 1916 (daily discharge and peaks).

GAGE.--Chain gage. Datum of gage is approximately 1,899.72 ft above NAVD 88 (VERTCON conversion of 1,900 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--8 years, 751 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1908 - 1916		
Highest daily mean	15,700	Mar 27, 1913
Lowest daily mean	11	Jul 17, 1908
Annual seven-day minimum	12	Sep 25, 1914
Maximum peak flow	^a 21,700	Mar 27, 1913 (14.2 ft stage)
10 percent duration	1,820	
50 percent duration	376	
90 percent duration	46	

^a From rating curve extended above 4,000 ft³/s.

03181900 MACK BUTTERBALL HOLLOW NEAR HUNTERSVILLE, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 38°14'09", long 79°58'27" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, at culvert on Secondary Route 11, 0.1 mi upstream from mouth, and 3.5 mi northeast of Huntersville.

DRAINAGE AREA.--0.10 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1977 (annual maxima). Water years 1965, 1966, and 1973 published in OFR 80-560. Prior to WRIR 00-4080 published as Moody Moore Hollow near Huntersville.

REVISED RECORDS.--WRIR 00-4080: Drainage area, latitude, and longitude.

GAGE.--Crest-stage gage. Datum of gage is 2,429.34 ft above NAVD 88 (VERTCON conversion of 2,429.55 ft above NGVD 29).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20 ft³/s, Sept. 20, 1969, gage height, 4.40 ft.

03182000 KNAPP CREEK AT MARLINTON, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 38°12'40", long 80°04'30" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, on right bank 700 ft downstream from Spice Run, 1 mi southeast of Marlinton, at mile 2.4.

DRAINAGE AREA.--108 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1945 to September 1958 (daily discharge and peaks), October 1993 to September 1998 (annual maxima).

REVISED RECORDS.--WDR WV-97-1: 1946-58(P).

GAGE.--Crest-stage gage. Elevation of gage is approximately 2,089.74 ft above NAVD 88 (VERTCON conversion of 2,090 ft above NGVD 29, from topographic map). Prior to October 1, 1993, staff gage 650 ft downstream at different datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Maximum discharge, 22,000 ft³/s, Jan. 19, 1996, gage height 19.55 (present datum), from adjustment of the Nov. 5, 1985 slope-area measurement, highest since 1918.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 5, 1985 reached a stage of 17.8 ft (previous datum), discharge, 20,000 ft³/s, from slope-area measurement. Flood of Apr. 26, 1989 reached a stage of 13.3 ft (previous datum), discharge, 9,940 ft³/s, from rating curve extended above 2,000 ft³/s based on Nov. 5, 1985 slope-area measurement.

DISCHARGE SUMMARY STATISTICS		
Water Years 1946 - 1958		
Annual mean	149	
Highest daily mean	3,210	Mar 5, 1955
Lowest daily mean	2.0	Sep 11, 1955
Annual seven-day minimum	2.2	Sep 10, 1955
Maximum peak flow	10,900	Jul 15, 1954 (13.86 ft stage)
10 percent duration	350	
50 percent duration	62	
90 percent duration	12	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	3.77	
7 day 10 yr low flow	4.10	
30 day 5 yr low flow	8.11	
1 day 3 yr bio-based low flow	2.14	
4 day 3 yr bio-based low flow	3.62	
10 percent duration	344	
50 percent duration	62.9	
90 percent duration	11.9	
EPA harmonic mean	30.6	

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1946 to September 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily observed, 28.0°C, July 24, 1952; minimum observed, 0.0°C, several days during winter periods 1986 and 1987.

03182050 MARLIN RUN AT MARLINTON, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 38°13'12", long 80°04'52" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003.

DRAINAGE AREA.--1.02 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 2002 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,189.73 ft above NAVD 88 (VERTCON conversion of 2,190.0 ft above NGVD 29).

REMARKS.--Dam name: Marlin Run No. 1

Surface area: 2 acres

Normal Pool = 29.5 ft (Normal Storage = 15 acre-ft)

Top of Riser = 31.3 ft

Emergency Spillway = 65.0 ft

Top of Dam = 71.6 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 35.75 ft, Mar. 2, 2007; minimum gage height, 29.12 ft, Aug. 25, 2008.

03182500 GREENBRIER RIVER AT BUCKEYE, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 38°11'09", long 80°07'51" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, on right bank at upstream side of highway bridge at Buckeye, 1,000 ft upstream from Swago Creek, 3.5 mi downstream from Knapp Creek, and at mile 105.1.

DRAINAGE AREA.--540 mi², includes that of Swago Creek.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1929 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 758: 1933. WSP 953: 1930-32, 1934-35(M), 1936, 1937(M), 1938-39, 1940(M). WSP 1275: 1936.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,085.69 ft above NAVD 88 (2,085.95 ft above NGVD 29, corrected). Prior to Feb. 27, 1939, nonrecording gage at same site and datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1930 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	343	676	1,078	1,291	1,484	1,962	1,410	1,115	535	339	304	222
Max	2,626	3,602	2,811	3,542	3,431	4,672	3,097	3,219	2,313	1,333	2,000	1,380
(WY)	(1977)	(1986)	(1973)	(1996)	(1994)	(1963)	(1958)	(1996)	(2003)	(1972)	(1942)	(2003)
Min	11.8	20.7	115	101	273	536	508	224	67.9	27.8	21.5	13.5
(WY)	(1931)	(1931)	(1931)	(1981)	(1934)	(2006)	(1963)	(1930)	(1991)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS	
Water Years 1930 - 2008	
Annual mean	894
Highest annual mean	1,573 2003
Lowest annual mean	492 1941
Highest daily mean	44,400 Nov 5, 1985
Lowest daily mean	5.2 Aug 13, 1930
Annual seven-day minimum	7.3 Sep 28, 1930
Maximum peak flow	^a 82,000 Nov 5, 1985 (^b 23.20 ft stage)
Instantaneous low flow	3.8 Aug 13, 1930
Annual runoff (cfsm)	1.66
Annual runoff (inches)	22.50
10 percent duration	2,090
50 percent duration	425
90 percent duration	55
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	12.6
7 day 10 yr low flow	14.5
30 day 5 yr low flow	28.4
1 day 3 yr bio-based low flow	11.0
4 day 3 yr bio-based low flow	15.4
10 percent duration	2,100
50 percent duration	414
90 percent duration	53.8

^a From rating curve extended above 33,000 ft³/s on basis of slope-area measurement of peak flow, highest since 1896.

^b From floodmarks.

03182650 SPRING CREEK AT SPRING CREEK, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 37°57'24", long 80°21'09" referenced to North American Datum of 1927, Greenbrier County, WV, Hydrologic Unit 05050003, on right bank at Spring Creek, 0.3 mi upstream from highway bridge on Secondary State Route 13, and at mile 0.4.

DRAINAGE AREA.--120 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1971 to September 1973 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 1,849.54 ft above NAVD 88 (VERTCON conversion of 1,850 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1972 - 1973		
Highest daily mean	7,130	Feb 26, 1972
Lowest daily mean	9.0	Sep 25, 1972
Annual seven-day minimum	9.6	Sep 21, 1972
Maximum peak flow	^a 8,820	Feb 26, 1972 (14.52 ft stage)
Instantaneous low flow	9.0	Sep 21, 1972 ^b
10 percent duration	700	
50 percent duration	180	
90 percent duration	30	

^a From rating curve extended above 1,700 ft³/s.

^b Also Sept. 22, 24-28, 1972.

03182700 ANTHONY CREEK NEAR ANTHONY, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 37°54'27", long 80°17'27" referenced to North American Datum of 1927, Greenbrier County, WV, Hydrologic Unit 05050003, on right bank 0.3 mi downstream from Big Draft, 1.7 mi downstream from Rocky Run, 2.2 mi northeast of Anthony, and at mile 3.2.

DRAINAGE AREA.--144 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Water years 1949, 1951-53, 1957, 1960, 1966, 1968-71 (occasional low-flow discharge measurements only), October 1971 to September 1982 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is approximately 1,849.58 ft above NAVD 88 (VERTCON conversion of 1,850 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 23, 1996 reached a stage of 21.35 ft (from floodmarks), discharge, 27,400 ft³/s, from slope-conveyance rating extension, discharge is the highest since 1918.

DISCHARGE SUMMARY STATISTICS		
Water Years 1972 - 1982		
Annual mean	207	
Highest daily mean	8,580	Apr 5, 1977
Lowest daily mean	6.2	Nov 7, 1978
Annual seven-day minimum	6.4	Nov 3, 1978
Maximum peak flow	^a 19,700	Dec 26, 1973 (^b 19.30 ft stage)
10 percent duration	451	
50 percent duration	82	
90 percent duration	13	

^a From rating extended above 1,100 ft³/s.

^b From floodmarks.

03182888 DRY CREEK AT TUCKAHOE, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 37°44'28", long 80°16'42" referenced to North American Datum of 1927, Greenbrier County, WV, Hydrologic Unit 05050003.

DRAINAGE AREA.--13.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2003 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,016.11 ft above NAVD 88 (VERTCON conversion of 2,016.54 ft above NGVD 29).

REMARKS.--Dam name: Howard Creek No. 12

Surface area: 39 acres

Normal Pool = 46.46 ft (Normal Storage = 459 acre-ft)

Top of Riser = 51.13 ft

Emergency Spillway = 77.46 ft

Top of Dam = 98.56 ft

Gage orifice = 42.30 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 64.23 ft, Sept. 28, 2004; minimum gage height, 43.36 ft, Sept. 26, 28, 29, 30, 2005.

03182950 HOWARD CREEK AT CALDWELL, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 37°46'54", long 80°23'15" referenced to North American Datum of 1927, Greenbrier County, WV, Hydrologic Unit 05050003, on right bank at Caldwell, 300 ft upstream from highway bridge on U.S. Highway 60, 3.5 mi southeast of Lewisburg, 5.0 mi southwest of White Sulphur Springs, and at mile 0.9.

DRAINAGE AREA.--84.4 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements water years 1960, 1962, 1964-66, 1968-71. October 1971 to September 1978 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is 1,680.86 ft above NAVD 88 (VERTCON conversion of 1,681.01 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1972 - 1978		
Annual mean	124	
Highest daily mean	7,500	Jun 21, 1972
Lowest daily mean	5.0	Oct 13, 1974
Annual seven-day minimum	5.4	Aug 20, 1976
Maximum peak flow	^a 14,000	Jun 21, 1972 (^b 18.6 ft stage)
Instantaneous low flow	2.2	Oct 13, 1974
10 percent duration	257	
50 percent duration	49	
90 percent duration	11	

^a From rating curve extended above 1,900 ft³/s on basis of slope-area measurement of peak flow.

^b From floodmarks.

03183000 SECOND CREEK NEAR SECOND CREEK, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 37°41'05", long 80°27'25" referenced to North American Datum of 1927, Monroe County, WV, Hydrologic Unit 05050003, on left bank 100 ft upstream from bridge on U.S. Highway 219, 1.4 mi north of Second Creek, 1.6 mi downstream from Rayburn Draft, and at mile 8.0.

DRAINAGE AREA.--80.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1945 to September 1973, October 1996 to September 1998 (daily discharge and peaks).

REVISED RECORDS.--WSP 1275: 1950.

GAGE.--Water-stage recorder. Datum of gage is 1,810.30 ft above NAVD 88 (VERTCON conversion of 1,810.79 ft above NGVD 29). Prior to Oct. 18, 1947, nonrecording gage at site 100 ft upstream at datum 1.57 ft higher. Oct. 18, 1947 to Sept. 30, 1960, water-stage recorder at present site and datum 1.57 ft higher. Oct. 1, 1960 to June 26, 1964, water-stage recorder at present site and datum 0.57 ft higher. June 27, 1964 to Jan. 23, 1965, nonrecording gage at site 300 ft upstream at different datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Some regulation at low flow caused by gristmills at Gap Mills and Second Creek.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1946 - 1998, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	25.1	42.4	89.5	110	164	203	138	104	45.6	22.9	15.1	12.2
Max	136	210	270	225	397	528	314	272	212	90.5	32.9	53.1
(WY)	(1962)	(1973)	(1949)	(1957)	(1998)	(1955)	(1998)	(1998)	(1972)	(1954)	(1948)	(1966)
Min	3.68	5.10	5.53	7.61	34.8	51.5	35.7	24.5	11.9	5.97	5.49	4.40
(WY)	(1964)	(1954)	(1966)	(1966)	(1954)	(1970)	(1963)	(1964)	(1964)	(1966)	(1953)	(1965)

DISCHARGE SUMMARY STATISTICS		
Water Years 1946 - 1998		
Annual mean	80.5	
Highest annual mean	130	1998
Lowest annual mean	43.7	1969
Highest daily mean	4,290	Mar 12, 1963
Lowest daily mean	1.8	Oct 18, 1953
Annual seven-day minimum	3.1	Sep 22, 1964
Maximum peak flow	^a 7,460	Jun 21, 1972 (9.41 ft stage)
Instantaneous low flow	0.70	Nov 17, 1953 ^b
Annual runoff (cfsm)	0.996	
Annual runoff (inches)	13.54	
10 percent duration	182	
50 percent duration	31	
90 percent duration	6.0	
Climatic Years 1930 - 2002 (Wiley, 2006)		
1 day 10 yr low flow	2.58	
7 day 10 yr low flow	3.51	
30 day 5 yr low flow	4.87	
1 day 3 yr bio-based low flow	2.68	
4 day 3 yr bio-based low flow	3.22	
10 percent duration	183	
50 percent duration	31.7	
90 percent duration	6.3	
EPA harmonic mean	16.4	

^a From rating curve extended above 2,600 ft³/s on basis of slope-area measurement at gage height 8.33 ft.

^b Also Dec. 24, 1953.

03183200 DAVIS SPRING AT FORT SPRING, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 37°45'20", long 80°32'42" referenced to North American Datum of 1927, Greenbrier County, WV, Hydrologic Unit 05050003, on left bank at Fort Spring, 150 ft downstream from source, and 500 ft upstream from mouth.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1971 to September 1973 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 1,599.45 ft above NAVD 88 (VERTCON conversion of 1,600 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1972 - 1973		
Highest daily mean	1,000	Feb 26, 1972 ^a
Lowest daily mean	11	Oct 1, 1971 ^b
Annual seven-day minimum	11	Sep 3, 1972
10 percent duration	296	
50 percent duration	64	
90 percent duration	16	

^a Also June 22, July 6, Dec. 10, 23, 1972, Feb. 3, Mar. 17, Apr. 28, May 29, 1973.

^b Also Sept. 5-8, 1972, Sept. 22-24, 29, 1973.

03183500 GREENBRIER RIVER AT ALDERSON, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 37°43'27", long 80°38'30" referenced to North American Datum of 1927, Monroe County, WV, Hydrologic Unit 05050003, on left bank 400 ft upstream from highway bridge at Alderson, 0.5 mi upstream from Muddy Creek, and at mile 29.2.

DRAINAGE AREA.--1,364 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1895 to September 2008 (daily discharge and peaks, monthly discharge only for some periods published in WSP 1305).

REVISED RECORDS.--WSP 536: 1907-9. WSP 803: 1918(M). WSP 953: 1930-41. WSP 1275:1897, 1905, 1910, 1914(M), 1915-16, 1917(M), 1919-20(M), 1924-25(M), 1927(M), 1929, 1949, WDR WV-82-1: Drainage area. WDR WV-97-1: 1930(M), 1932(M), 1935-37(M), 1939(P), 1943(P), 1946(M), 1955(P), 1963(M), 1967(M), 1974(M), 1977(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,529.01 ft above NAVD 88 (1,529.57 ft above NGVD 29, corrected). Prior to Oct. 15, 1929, nonrecording gage at bridge 400 ft downstream at same datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1895 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	726	1,316	2,260	3,027	3,450	4,492	3,116	2,418	1,343	809	700	458
Max	4,480	6,006	6,409	7,866	7,739	10,970	7,568	5,700	6,045	3,481	4,390	2,805
(WY)	(1977)	(1986)	(1974)	(1996)	(1897)	(1963)	(1987)	(1996)	(1907)	(1919)	(1898)	(2003)
Min	35.6	68.9	172	242	411	1,036	802	489	203	68.9	43.2	33.8
(WY)	(1931)	(1931)	(1931)	(1981)	(1934)	(2006)	(1915)	(1941)	(1991)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1895 - 2008	
Annual mean	2,004
Highest annual mean	3,606 2003
Lowest annual mean	983 1941
Highest daily mean	63,100 Jan 20, 1996
Lowest daily mean	26 Aug 11, 1930
Annual seven-day minimum	28 Sep 29, 1930
Maximum peak flow	^a 94,000 Jan 20, 1996 (24.33 ft stage)
Instantaneous low flow	24 Aug 12, 1930 ^b
Annual runoff (cfsm)	1.47
Annual runoff (inches)	19.96
10 percent duration	4,820
50 percent duration	954
90 percent duration	144
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	44.0
7 day 10 yr low flow	48.0
30 day 5 yr low flow	77.5

1 day 3 yr bio-based low flow	45.0
4 day 3 yr bio-based low flow	47.9
10 percent duration	4,600
50 percent duration	895
90 percent duration	135
EPA harmonic mean	367

^a From rating curve extended above 37,000 ft³/s on basis of slope-area measurement of peak flow.

^b Also Oct. 1, 2, 1930.

WATER-QUALITY RECORDS

PERIOD OF RECORD.—April 2007 to September 2008.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 2007 to September 2008.

pH: April 2007 to September 2008.

WATER TEMPERATURE: April 2007 to September 2008.

DISSOLVED OXYGEN: April 2007 to September 2008.

INSTRUMENTATION.--Water-quality monitor April 2007 to September 2008.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 270 microsiemens, Sept. 13, 2008; minimum recorded, 55 microsiemens, Dec. 12, 2007.

pH: Maximum recorded, 9.4 units, Aug. 31, Sept. 2, 27, 2007; minimum recorded, 7.0 units, Jan. 5, 21, 2008.

WATER TEMPERATURE: Maximum recorded, 29.9° C, Aug. 9, 10, 2007; minimum recorded, 0.0° C, Jan. 4, 23, 2008.

DISSOLVED OXYGEN: Maximum recorded, 14.8 mg/L, Sept. 19, 2008; minimum recorded, 4.5 mg/L, Aug. 23, 2007.

03183550 GRIFFITH CREEK NEAR ALDERSON, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 37°44'15", long 80°42'36" referenced to North American Datum of 1927, Monroe County, WV, Hydrologic Unit 05050003, at culvert on State Secondary Route 7/14 at Griffith School, 4.0 mi northwest of Alderson, and at mile 2.0.

DRAINAGE AREA.--3.84 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1977 (annual maxima).

REVISED RECORDS.--OFR 80-560: 1967-69(M)

GAGE.--Crest-stage gage. Elevation of gage approximately 1,849.43 ft above NAVD 88 (VERTCON conversion of 1,850 ft above NGVD 29, from topographic map).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 420 ft³/s, Aug. 20, 1969, gage height, 10.75 ft.

03183570 BUGGAR LICK AT PENCE SPRINGS, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 37°41'03", long 80°43'00" referenced to North American Datum of 1927, Summers County, WV, Hydrologic Unit 05050003, at culvert on State Route 3, at Pence Springs, and 0.3 mile upstream from mouth.

DRAINAGE AREA.--2.31 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1977 (annual maxima).

GAGE.--Crest-stage gage.

REVISED RECORDS.--Basin Characteristics Report: Drainage area.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 546 ft³/s, Apr. 5, 1977, gage height, 9.44 ft.

03184000 GREENBRIER RIVER AT HILLDALE, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 37°38'24", long 80°48'19" referenced to North American Datum of 1927, Summers County, WV, Hydrologic Unit 05050003, on left bank 100 ft downstream from State Highway 3 bridge at Hilldale, 0.1 mi upstream from Howard Creek, 0.9 mi upstream from Powley Creek, 5.0 mi southeast of Hinton, and at mile 5.5.

DRAINAGE AREA.--1,619 mi², includes that of Howard Creek.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1936 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 1435: 1955. WDR WV-82-1: Drainage area. WDR WV-97-1: 1937(P), 1938(M), 1939(P), 1940-42(M), 1953(M), 1955(M), 1960(M), 1962-64(M), 1967(P), 1969-70(M), 1972(P), 1974(M), 1977-78(P), 1984(M). WDR WV-2005-1: 2004(P).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,388.31 ft above NAVD 88 (1,388.84 ft above NGVD 29 (corrected), levels by U.S. Army Corps of Engineers).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 21.85 ft, from data furnished by U.S. Army Corps of Engineers, discharge, 60,800 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1936 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	810	1,497	2,660	3,382	4,037	5,120	3,682	2,876	1,473	781	724	516
Max	5,112	7,111	7,866	9,208	9,096	12,910	9,535	6,673	6,592	3,372	3,800	3,173
(WY)	(1977)	(2004)	(1974)	(1996)	(1994)	(1963)	(1987)	(1989)	(2003)	(1972)	(1942)	(2003)
Min	46.4	76.8	260	302	731	1,091	901	586	219	84.4	72.1	59.6
(WY)	(1954)	(1954)	(1961)	(1981)	(2002)	(2006)	(1986)	(1941)	(1999)	(1999)	(1987)	(1946)

DISCHARGE SUMMARY STATISTICS		
Water Years 1936 - 2007		
Annual mean	2,290	
Highest annual mean	4,360	2003
Lowest annual mean	1,189	1941
Highest daily mean	79,400	Jan 20, 1996
Lowest daily mean	39	Sep 19, 1946
Annual seven-day minimum	44	Oct 17, 1953
Maximum peak flow	^a 93,000	Jan 20, 1996 (26.88 ft stage)
Instantaneous low flow	39	Sep 18, 1946 ^b
Annual runoff (cfsm)	1.41	
Annual runoff (inches)	19.22	
10 percent duration	5,580	
50 percent duration	1,070	
90 percent duration	150	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	48.2	
7 day 10 yr low flow	51.5	
30 day 5 yr low flow	82.6	
1 day 3 yr bio-based low flow	45.9	
4 day 3 yr bio-based low flow	49.9	
10 percent duration	5,510	
50 percent duration	1,050	
90 percent duration	148	
EPA harmonic mean	413	

^a Highest since 1896.

^b Also Sept. 19, 20, 1946, Sept. 16, 1964.

03184200 BIG CREEK NEAR BELLEPOINT, WV

Kanawha Basin
Greenbrier Subbasin

LOCATION.--Lat 37°40'28", long 80°48'52" referenced to North American Datum of 1927, Summers County, WV, Hydrologic Unit 05050003, on left upstream wingwall of bridge, on Secondary Route 10, 4 mi northeast of Bellepoint, and at mile 2.0.

DRAINAGE AREA.--8.27 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1969 to September 1977 (daily discharge and peaks), October 1998 to September 2008 (annual maxima).

GAGE.--Crest-stage gage. Datum of gage is 1,407.16 ft above NAVD 88 (VERTCON conversion of 1,407.68 ft above NGVD 29. Prior to Sept. 30, 1977, water-stage recorder at same site and datum.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--8 years, 11.2 ft³/s, 18.39 in/yr.

EXTREMES FOR PERIOD OF RECORD.-- Maximum discharge, 3,670 ft³/s, June 21, 1973, gage height, 6.7 ft (datum then in use, from flood profile), from rating curve extended above 80 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 13.5 ft, Nov. 19, 2003, backwater behind bridge; minimum daily, 0.01 ft³/s, Aug. 6-8, 1970, Sept. 2-5, 1973, Aug. 23-27, Sept. 1, 6, 7, 9, 1976.

03184500 NEW RIVER AT HINTON, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 37°40'13", long 80°53'34" referenced to North American Datum of 1927, Summers County, WV, Hydrologic Unit 05050004, on the right bank, in the city of Hinton, on Hinton Builders Supply Company property 0.2 mi upstream from Madam Creek, and 1.5 mi downstream from Greenbrier River at New River mile 62.0 and Kanawha River mile 160.0.

DRAINAGE AREA.--6,256 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1936 to September 1955 (daily discharge and peaks), October 1955 to September 2003 (daily discharge and annual maxima), October 2003 to September 2008 (annual maximum gage height).

REVISED RECORDS.--WDR WV-82-1: Drainage area. WDR WV-85-1: 1984(m); WDR WV-99-1: 1998 (m).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,354.82 ft above NAVD 88 (1,355.38 ft above NGVD 29, corrected). Prior to June 5, 1949, water-stage recorder at site 400 ft upstream at same datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow regulated since May 1939 by Claytor Lake, and since August 1949 by Bluestone Lake.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--2 years (water years 1937 and 1938), 8,642 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1939 - 2003, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3,888	5,243	7,768	9,927	12,870	15,190	12,280	9,740	6,407	4,268	4,012	3,323
Max	14,720	16,780	19,380	24,310	30,020	32,430	35,060	18,470	19,560	11,410	19,800	13,460
(WY)	(1977)	(1978)	(1949)	(1996)	(1957)	(1955)	(1987)	(1958)	(2003)	(2003)	(1940)	(1989)
Min	1,371	1,445	1,736	1,850	3,115	4,005	3,717	3,074	1,960	1,489	1,321	1,450
(WY)	(1942)	(2002)	(1940)	(1956)	(2002)	(1988)	(1986)	(1941)	(1988)	(1988)	(2002)	(1953)

DISCHARGE SUMMARY STATISTICS

Water Years 1939 - 2003	
Annual mean	7,885
Highest annual mean	13,150 2003
Lowest annual mean	3,988 1988
Highest daily mean	170,000 Aug 15, 1940
Lowest daily mean	620 Nov 3, 1980
Annual seven-day minimum	828 Jul 8, 1988
Maximum peak flow	^a 246,000 Aug 15, 1940 (18.97 ft stage)
Instantaneous low flow	238 Aug 21, 1962
10 percent duration	16,800
50 percent duration	5,000
90 percent duration	1,840

^a From rating curve extended above 80,000 ft³/s on basis of slope-area measurement at station at Bluestone Dam and gaged inflow from Greenbrier River, highest since 1901.

03185000 PINEY CREEK AT RALEIGH, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 37°45'38", long 81°09'45" referenced to North American Datum of 1927, Raleigh County, WV, Hydrologic Unit 05050004, on left bank at Raleigh, 0.6 mi downstream from Whitestick Creek, 0.4 mi upstream from Beaver Creek, 1.5 mi southeast of Beckley, and at mile 11.9.

DRAINAGE AREA.--52.7 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1951 to September 1982, and December 2002 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 1435: 1955(M). WDR WV-97-1: 1961(m), 1963(m), 1967(m), 1970(m) 1972(m), 1977(m), 1980(m). WDR WV-2004-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,084.05 ft above NAVD 88 (VERTCON conversion of 2,084.54 ft above NGVD 29). Prior to Dec. 4, 2002, gage located 500 ft upstream at datum of 2.70 ft higher.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1951 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	20.7	40.5	71.0	97.8	118	139	111	81.6	47.3	29.8	26.6	17.8
Max	108	246	156	231	342	352	271	236	211	95.4	85.8	103
(WY)	(1977)	(2004)	(1958)	(1957)	(2003)	(1963)	(2003)	(2003)	(2003)	(1962)	(1980)	(2003)
Min	1.20	1.12	0.87	3.48	31.7	40.3	26.6	15.7	5.94	2.82	2.29	1.39
(WY)	(1964)	(1966)	(1966)	(1966)	(1978)	(2006)	(1963)	(1964)	(1964)	(1966)	(1964)	(1965)

DISCHARGE SUMMARY STATISTICS

Water Years 1951 - 2008	
Annual mean	64.5
Highest annual mean	130 2004
Lowest annual mean	30.1 1966
Highest daily mean	2,210 Mar 12, 1963
Lowest daily mean	0.20 Sep 5, 1964 ^a
Annual seven-day minimum	0.20 Sep 5, 1964
Maximum peak flow	3,050 Mar 12, 1963
Maximum peak stage (ft)	9.12 May 31, 2004
Instantaneous low flow	0.20 Sep 5, 1964 ^a
Annual runoff (cfsm)	1.22
Annual runoff (inches)	16.63
10 percent duration	144
50 percent duration	33
90 percent duration	4.3
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.56
7 day 10 yr low flow	0.64
30 day 5 yr low flow	1.73
1 day 3 yr bio-based low flow	0.54
4 day 3 yr bio-based low flow	0.63
10 percent duration	143
50 percent duration	29.2
90 percent duration	3.7

EPA harmonic mean 8.41
^a Also Sept. 6-18, 21-23, 1964.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 474 microsiemens, Sept. 30, 1981; minimum, 102 microsiemens, Dec. 16, 1980.

03185020 LITTLE BEAVER CREEK TRIBUTARY NEAR SHADY SPRINGS, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 37°43'30", long 81°06'02" referenced to North American Datum of 1927, Raleigh County, WV, Hydrologic Unit 05050004, at culvert on U.S. Highways 19 and 21 and State Highway 3, 1.3 mi north of Shady Spring, and at mile 0.3.

DRAINAGE AREA.--0.62 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1977 (annual maxima). Water year 1973 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 89 ft³/s, Dec. 30, 1969, gage height, 7.50 ft.

03185400 NEW RIVER AT THURMOND, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 37°57'18", long 81°04'36" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050004, on right bank at Thurmond, at Chessie System pump house, 0.1 mi upstream from Dunloup Creek, 0.3 mi upstream from railroad/highway bridge, at New River mile 25.8 and Kanawha River mile 122.4.

DRAINAGE AREA.--6,687 mi², excluding that of Dunloup Creek.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1981 to September 2008 (daily discharge and annual maxima).

REVISED RECORDS.--WDR WV-97-1: 1981-92(M). WDR-US-2008: 1982, 1983.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,030.13 ft above NAVD 88 (1,030.71 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow regulated by Claytor Lake and Bluestone Lake.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1981 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3,978	6,555	8,628	11,150	14,030	15,720	13,870	11,210	7,259	4,505	3,838	3,648
Max	16,510	21,590	18,020	27,470	28,590	34,950	40,500	19,650	20,840	11,990	10,160	15,000
(WY)	(1990)	(2004)	(1997)	(1996)	(1994)	(1993)	(1987)	(1989)	(2003)	(2003)	(2003)	(2004)
Min	1,388	1,499	2,366	3,517	3,631	4,154	3,958	5,033	2,010	1,532	1,393	1,499
(WY)	(1992)	(2002)	(2002)	(2000)	(2002)	(1988)	(1986)	(2000)	(1988)	(1988)	(1988)	(2007)

DISCHARGE SUMMARY STATISTICS

Water Years 1981 - 2008	
Annual mean	8,700
Highest annual mean	14,600 2003
Lowest annual mean	4,336 1988
Highest daily mean	92,500 Jan 20, 1996
Lowest daily mean	808 Jul 11, 1988
Annual seven-day minimum	852 Jul 6, 1988
Maximum peak flow	^a 100,000 Jan 20, 1996 (20.35 ft stage)
Instantaneous low flow	589 Oct 20, 1994
10 percent duration	18,700
50 percent duration	5,450
90 percent duration	1,800

^a From rating curve extended above 59,000 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1990 to September 1993.

pH: October 1990 to September 1993.

WATER TEMPERATURE: October 1990 to September 1993.

DISSOLVED OXYGEN: October 1990 to September 1993.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily mean: 207 microsiemens, Nov. 26, 1991; minimum daily mean, 87 microsiemens, Mar. 25, 1993.

pH: Maximum daily median, 8.8 units, June 10, 11, 1991; minimum daily median, 7.3 units, May 11, 1993.

WATER TEMPERATURE: Maximum daily mean, 29.2°C, July 29, 1993; minimum daily mean, 0.7°C, Jan. 20, 1992.

DISSOLVED OXYGEN: Maximum daily mean, 13.4 mg/L, Dec. 20, 1991; minimum daily mean, 6.1 mg/L, June 3, 4, 1991.

03185500 NEW RIVER AT CAPERTON, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 38°01'20", long 81°01'45" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050004, on left bank 50 ft downstream from suspension footbridge at Caperton, and 2 mi southeast of Nuttallburg.

DRAINAGE AREA.--6,826 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1928 to September 1955 (daily discharge and peaks), October 1955 to September 1958 (daily discharge and annual maxima).

GAGE.--Water-stage recorder. Datum of gage is 937.89 ft above NAVD 88 (VERTCON conversion of 938.44 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow partly regulated by since 1939 by Claytor Reservoir and regulated since 1949 by Bluestone Reservoir (combined usable capacity, 721,000 acre-ft).

DISCHARGE SUMMARY STATISTICS		
Water Years 1929 - 1958		
Annual mean	8,655	
Highest daily mean	177,000	Aug 15, 1940
Lowest daily mean	836	Oct 7, 1930
Annual seven-day minimum	956	Oct 6, 1930
Maximum peak flow	244,000	Aug 15, 1940 (36.0 ft stage)
Instantaneous low flow	818	Oct 8, 11, 1930
10 percent duration	18,800	
50 percent duration	5,470	
90 percent duration	1,820	

03186000 NEW RIVER AT FAYETTE, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 38°03'55", long 81°04'40" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050004, at highway bridge at Fayette, 850 ft upstream from Wolf Creek.

DRAINAGE AREA--6,850 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1895 to May 1901 (daily discharge and peaks), May to September 1901 (peaks), October 1902 to September 1904, and August 1908 to September 1916 (daily discharge and peaks), October 1928 to September 1948 (annual maximum discharge).

REVISED RECORDS.--WSP 1675: 1878(M). WDR WV-2005-1: 1878(M).

GAGE.--Chain gage. Datum of gage is 838.44 ft above COE 12.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Estimates of annual maximum for October 1928 to September 1948 published in WDR WV-98-1, p. 467.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--15 years, 8,963 ft³/s.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of September 1878 reached a stage of 53 ft (from floodmarks), discharge, 310,000 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1895 - 1916		
Highest daily mean	156,000	Jul 17, 1916
Lowest daily mean	1,410	Oct 24, 1895
Annual seven-day minimum	1,520	Oct 1, 1914
Maximum peak flow	^a 191,000	Jul 17, 1916 (^b 39.8 ft stage)
Instantaneous low flow	1,330	Oct 9, 1904
10 percent duration	18,800	
50 percent duration	5,440	
90 percent duration	2,220	

^a From rating curve extended above 174,000 ft³/s.

^b From floodmarks.

374643080533401 LICK CREEK NEAR SANDSTONE, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 37°46'43", long 80°53'34" referenced to North American Datum of 1927, Summers County, WV, Hydrologic Unit 05050004, on right bank, 50 ft downstream from State Route 20 bridge over Lick Creek, about 0.5 mi north on Route 20 from Sandstone, and at mile 0.2.

DRAINAGE AREA.--39.1 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1987 to September 2008 (discharge measurements only).

GAGE.--Reference gage is staff plate. Datum is arbitrary.

374847080552401 MEADOW CREEK AT MEADOW CREEK, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 37°48'47", long 80°55'24" referenced to North American Datum of 1927, Summers County, WV, Hydrologic Unit 05050004, on the left bank, 10 ft downstream of State Route 7/1 bridge, about 0.3 mi from Meadow Creek, and at mile 0.3.

DRAINAGE AREA.--28.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1987 to September 2008 (discharge measurements only).

GAGE.--Reference gage is staff plate. Datum is arbitrary.

375041081054201 PINEY CREEK NEAR MCCREERY, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 37°50'41", long 81°05'42" referenced to North American Datum of 1927, Raleigh County, WV, Hydrologic Unit 05050004, about 1,500 ft upstream from State Route 41 highway bridge, and at mile 0.5.

DRAINAGE AREA.--134 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.—August 1990 to September 2008 (discharge measurements only).

GAGE.--Reference gage is staff plate. Datum is arbitrary.

375105081024801 LAUREL CREEK AT QUINNIMONT, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 37°51'05", long 81°02'48" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050004, on the left downstream side of a railroad bridge trestle, 1 mi east of Prince along State Route 41, and at mile 0.1.

DRAINAGE AREA.--27.6 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1987 to September 2008 (discharge measurements only).

GAGE.--Reference gage is staff plate. Datum is arbitrary.

375635081051601 DUNLOUP CREEK NEAR THURMOND, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 37°56'35", long 81°05'16" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050004, on State Route 25 bridge southwest of Thurmond, and at mile 1.1.

DRAINAGE AREA.--45.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1987 to September 2008 (discharge measurements only).

GAGE.--Reference gage is a wire-weight gage. Datum is arbitrary.

375834081063201 ARBUCKLE CREEK AT MINDEN, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 37°58'34", long 81°06'32" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050004, on upstream side of box culvert, on County Route 17/11, north of Minden.

DRAINAGE AREA.--5.46 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 2002 to September 2008 (discharge measurements only).

GAGE.--Reference gage is staff plate. Datum is arbitrary. Prior to June 13, 2002, a site called Arbuckle Creek near Thurmond (Site number: 375745081051001) was used. Drainage area at old site was 8.72 mi².

380351081045401 WOLF CREEK NEAR FAYETTEVILLE, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 38°03'51", long 81°04'54" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050004, on the left bank, 40 ft below State Route 82 bridge, east of Fayette Station, and at mile 0.1.

DRAINAGE AREA.--17.4 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1987 to September 2008 (discharge measurements only).

GAGE.--Reference gage is staff plate. Datum is arbitrary.

380427081053901 MARR BRANCH NEAR FAYETTEVILLE, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 38°04'27", long 81°05'39" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050004, on left bank about 1.1 mi from intersection of US Route 19 and State Route 82, and at mile 0.5.

DRAINAGE AREA.--3.13 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1987 to September 2008 (discharge measurements only).

GAGE.--Reference gage is staff plate. Datum is arbitrary.

380649081083301 NEW RIVER BELOW HAWKS NEST DAM, WV

Kanawha Basin
Lower New Subbasin

LOCATION.--Lat 38°06'49", long 81°08'33" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050004, on right bank, 400 ft upstream from State Route 16 bridge at Cotton Hill, 600 ft upstream from Laurel Creek, and at mile 102.2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1990 to September 2005 (miscellaneous discharge measurements), October 2005 to September 2008 (annual maximum gage height and miscellaneous discharge measurements).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is unknown.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 22.12 ft, Mar. 3, 2007.

03186500 WILLIAMS RIVER AT DYER, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°22'44", long 80°29'03" referenced to North American Datum of 1927, Webster County, WV, Hydrologic Unit 05050005, on left bank at Dyer, 0.2 mi downstream from Craig Run, 7.0 mi southwest of Webster Springs, and at mile 2.3.

DRAINAGE AREA.--128 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1929 to September 2008 (daily discharge and peaks, monthly discharge only for some periods published in WSP 1305).

REVISED RECORDS.--WSP 1275: 1930.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,194.17 ft above NAVD 88 (2,194.64 ft above NGVD 29). Prior to June 11, 1930, nonrecording gage at same site and datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1929 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	166	313	416	456	508	658	494	369	211	188	161	101
Max	852	1,085	934	985	1,005	1,518	1,421	845	769	803	710	580
(WY)	(1930)	(1986)	(1979)	(1996)	(1939)	(1963)	(1958)	(1996)	(1940)	(1954)	(1989)	(2003)
Min	1.07	8.87	94.9	75.7	118	271	160	66.1	19.5	5.85	6.97	2.34
(WY)	(1954)	(1954)	(1940)	(1940)	(1978)	(2006)	(1995)	(1964)	(1965)	(1930)	(1944)	(1953)

DISCHARGE SUMMARY STATISTICS	
Water Years 1929 - 2008	
Annual mean	336
Highest annual mean	483 2003
Lowest annual mean	187 1941
Highest daily mean	10,000 Jul 4, 1932
Lowest daily mean	0.50 Oct 13, 1953 ^a
Annual seven-day minimum	0.54 Oct 11, 1953
Maximum peak flow	^b 22,000 Jul 4, 1932 (^c 18.45 ft stage)
Instantaneous low flow	0.49 Sep 12, 13, 1995
Annual runoff (cfsm)	2.63
Annual runoff (inches)	35.68
10 percent duration	766
50 percent duration	183
90 percent duration	20
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	1.77
7 day 10 yr low flow	2.21
30 day 5 yr low flow	8.12
1 day 3 yr bio-based low flow	1.56
4 day 3 yr bio-based low flow	2.02
10 percent duration	776
50 percent duration	180
90 percent duration	19.8
EPA harmonic mean	41.2

^a Also Oct. 14-16, 21, 1953.

^b From rating curve extended above 7,000 ft³/s on basis of slope-area measurements at gage heights 12.33 ft and 18.45 ft.

^c From floodmarks.

03187000 GAULEY RIVER AT CAMDEN ON GAULEY, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°21'57", long 80°36'04" referenced to North American Datum of 1927, Webster County, WV, Hydrologic Unit 05050005, on right bank, in the town of Camden-on-Gauley, 0.2 mi downstream from Coon Creek, and 0.9 mi upstream from Strouds Creek, and at mile 69.6.

DRAINAGE AREA.--236 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1908 to December 1909 (monthly discharge published in WSP 1305), January 1909 to September 1916, and October 1929 to September 1975 (daily discharge and peaks, monthly discharge only for some periods published in WSP 1305), October 1975 to September 1977, and October 1978 to September 2000 (annual maxima), October 2001 to September 2008 (annual maximum gage height). Prior to October 1934, published as Gauley River at Allingdale. Gage-height records collected in this vicinity since 1901 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1275: 1908-16, 1931 (M), 1934.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,003.28 ft above COE 12, July 1908 to Sept. 30, 1916, nonrecording gage at site 1.1 mi downstream at datum 3.08 ft lower. Oct. 20, 1929 to Oct. 29, 1934, nonrecording gage at site 1.1 mi downstream at present datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 15, 1901, reached a stage of 23.7 ft (present site and datum, adjusted for datum and stream slope from National weather Service gage), discharge, 31,500 ft³/s, from rating curve extended above 17,000 ft³/s on basis on velocity-area studies.

DISCHARGE SUMMARY STATISTICS		
Water Years 1909 - 1975		
Highest daily mean	16,000	Jul 5, 1932
Lowest daily mean	0.30	Oct 23, 1953
Annual seven-day minimum	0.34	Oct 21, 1953
Maximum peak flow	^a 42,500	Jul 4, 1932
Maximum peak stage	^b 27.38 ft stage	
Instantaneous low flow	0.30	Oct 23-27, 1953
10 percent duration	1,360	
50 percent duration	323	
90 percent duration	39	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	2.57	
7 day 10 yr low flow	3.01	
30 day 5 yr low flow	12.6	
1 day 3 yr bio-based low flow	3.45	
4 day 3 yr bio-based low flow	4.15	
10 percent duration	1,370	
50 percent duration	326	
90 percent duration	35.2	
EPA harmonic mean	57.8	

^a From rating curve extended above 17,000 ft³/s on basis of velocity-area studies.

^b Present site and datum, from floodmarks (23.3 ft at site 1.1 mi downstream).

03187300 NORTH FORK CRANBERRY RIVER NEAR HILLSBORO, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°15'29", long 80°19'27" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050005, Monongahela National Forest, on right bank at U.S. Forest Service bridge, 10.5 mi northwest of Hillsboro, at mile 0.02.

DRAINAGE AREA.--9.78 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1968 to September 1971 (daily discharge and peaks), October 1971 to September 1979 (daily discharge and annual maxima), October 1979 to September 1982 (daily discharge and peaks), October 1993 to September 1998 (annual maxima).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,165.14 ft above NAVD 88 (VERTCON conversion of 3,165.40 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Gage-height data for October 1971 to September 1979 provided by the U.S. Forest Service, discharge computations made from average rating without measurement verification, and published in WDR WV-82-1.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Maximum discharge, 2,300 ft³/s, Jan. 19 1996, gage height, 6.20 ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1969 - 1982		
Annual mean	31.5	
Highest daily mean	800	Oct 9, 1976
Lowest daily mean	0.70	Oct 3, 1978
Annual seven-day minimum	0.99	Oct 2, 1978
Maximum peak flow	1,930	Mar 5, 1979 (4.94 ft stage)
Instantaneous low flow	0.70	Oct 3, 1978
10 percent duration	70	
50 percent duration	20	
90 percent duration	4.8	

03187500 CRANBERRY RIVER NEAR RICHWOOD, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°17'43", long 80°31'36" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, Monongahela National Forest, on left bank 30 ft downstream from U.S. Forest Service highway bridge, 0.6 mi upstream from Barrenshe Run, 5.0 mi north of Richwood, and at mile 5.6.

DRAINAGE AREA.--80.4 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1944 to December 1951, and July 1964 to September 1971 (daily discharge and peaks), October 1971 to September 1979 (daily discharge and annual maxima; records provided by U.S. Forest Service, discharge computations made from average rating without periodic discharge measurement verification, published in WDR-82-1), October 1979 to September 1982, and March 1984 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-82-1: Drainage area. WDR WV-97-1: 1946(M), 1948(M), 1954(M), 1967(P), 1970(M), 1972-79(M), 1980-81(P), 1986(P), 1989(P), 1991-92(M), 1994(P).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,129.88 ft above NAVD 88 (2,130.32 ft above NGVD 29, corrected).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 19, 1954, reached a stage of 12.22 ft (from floodmarks, present site and datum), discharge, 12,200 ft³/s, highest since 1932.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1945 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	121	233	304	315	334	433	318	272	156	127	103	92.0
Max	613	746	632	636	642	954	570	567	470	389	562	381
(WY)	(1977)	(1986)	(1979)	(1974)	(1982)	(1984)	(1987)	(1996)	(2003)	(2001)	(1989)	(2003)
Min	6.65	12.7	63.0	40.3	68.2	197	114	86.1	12.7	7.64	8.56	2.50
(WY)	(1999)	(2002)	(1966)	(1977)	(1978)	(2006)	(1995)	(1991)	(1966)	(1993)	(1946)	(1946)

DISCHARGE SUMMARY STATISTICS		
Water Years 1945 - 2008		
Annual mean	233	
Highest annual mean	318	1979
Lowest annual mean	126	1999
Highest daily mean	6,770	Mar 21, 1984
Lowest daily mean	0.16	Aug 21, 1987
Annual seven-day minimum	0.28	Aug 15, 1987
Maximum peak flow	^a 12,200	Nov 19, 2003
Maximum peak stage (ft)	^b 11.93	Aug 21, 1989
Instantaneous low flow	0.14	Aug 22, 1987
Annual runoff (cfsm)	2.90	
Annual runoff (inches)	39.41	
10 percent duration	528	
50 percent duration	136	
90 percent duration	17	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	2.86	
7 day 10 yr low flow	3.47	
30 day 5 yr low flow	12.6	
1 day 3 yr bio-based low flow	2.07	
4 day 3 yr bio-based low flow	3.31	
10 percent duration	564	
50 percent duration	140	
90 percent duration	23.6	
EPA harmonic mean	52.4	

^a From rating curve extended above 9,000 ft³/s on basis of slope-area measurement at gage height 11.00 ft.

^b From floodmarks.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January to April 1980, December 1980 to September 1982.

WATER TEMPERATURE: October 1981 to September 1982.

SUSPENDED-SEDIMENT RECORDS: October 1979 to September 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 38 microsiemens, Aug. 7, 19, 1981; minimum daily, 21 microsiemens, May 10, 24-26, 1981, June 23, 25, 1982.

WATER TEMPERATURE: Maximum, 25.5°C, July 25, 1982; minimum, 0.0°C, on many days in 1982.

SEDIMENT CONCENTRATION: Maximum daily mean, 186 mg/L, Mar. 25, 1980; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOAD: Maximum daily, 900 tons, Mar. 18, 1980; minimum daily, 0 ton on many days.

03188000 CRANBERRY RIVER AT WOODBINE, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°17'40", long 80°35'50" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, 0.8 mi downstream from Music River, and at mile 1.0.

DRAINAGE AREA.--96.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1929 to September 1931 (daily discharge).

GAGE.--Staff gage. Datum of gage is approximately 1,949.53 ft above NAVD 88 (VERTCON conversion of 1,950 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1930 - 1931		
Highest daily mean	8,000	Oct 3, 1929
Lowest daily mean	0.00	Sep 22-25, 1930
Annual seven-day minimum	0.04	Sep 19, 1930
10 percent duration	530	
50 percent duration	120	
90 percent duration	1.5	

03188500 CHERRY RIVER AT RICHWOOD, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°13'20", long 80°32'00" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, at highway bridge at Richwood, 0.5 mi below confluence of North and South Forks.

DRAINAGE AREA.--85.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1908 to March 1909 (daily discharge), April 1909 to September 1916 (daily discharge and peaks).

GAGE.--Chain gage. Datum of gage is approximately 2,149.53 ft above NAVD 88 (VERTCON conversion of 2,150 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1908 - 1916		
Annual mean	235	
Highest daily mean	4,330	Oct 1, 1915
Lowest daily mean	4.8	Oct 8, 1908 ^a
Annual seven-day minimum	6.4	Sep 28, 1914
Maximum peak flow	6,600	Oct 1, 1915 (8.97 ft stage)
Instantaneous low flow	4.8	Oct 8, 1908 ^a
10 percent duration	525	
50 percent duration	139	
90 percent duration	28	

^a Also Oct. 9, 1908, and Oct. 4, 1914.

03189000 CHERRY RIVER AT FENWICK, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°13'45", long 80°35'00" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, on left bank at downstream side of highway bridge at Fenwick, 0.2 mi downstream from Laurel Creek, and at mile 6.4.

DRAINAGE AREA.--150 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1929 to October 1969, and October 1979 to September 1982 (daily discharge and peaks). Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 973: 1940-42. WSP 1275: 1930(M), 1931(M), 1932, 1933(M), 1934(M), 1936-39. WDR WV-97-1: 1932(M), 1940(M).

GAGE.--Water-stage recorder. Datum of gage is 2,088.94 ft above COE 12. Prior to Mar. 16, 1939 chain gage at same site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--43 years, 412 ft³/s, 37.30 in/yr.

DISCHARGE SUMMARY STATISTICS		
Water Years 1930 - 1982		
Highest daily mean	12,300	Jul 19, 1954
Lowest daily mean	0.10	Sep 20, 1930
Annual seven-day minimum	0.20	Sep 18, 1930
Maximum peak flow	^a 37,000	Jul 19, 1954 (^b 19.80 ft stage)
Instantaneous low flow	0.10	Sep 30, 1930
10 percent duration	1,000	
50 percent duration	209	
90 percent duration	16	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	0.82	
7 day 10 yr low flow	1.48	
30 day 5 yr low flow	5.02	
1 day 3 yr bio-based low flow	1.00	
4 day 3 yr bio-based low flow	1.18	
10 percent duration	1,020	
50 percent duration	221	
90 percent duration	14.0	
EPA harmonic mean	29.3	

^a From rating curve extended above 19,000 ft³/s on basis of contracted-opening measurement at 19.80 ft, highest since 1918.

^b From floodmarks.

03189100 GAULEY RIVER NEAR CRAIGSVILLE, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°17'27", long 80°38'28" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, on right bank at downstream side of highway bridge on State Highway 20, 200 ft downstream from Cherry River, 1.8 mi downstream from Cranberry River, 2.7 mi south of Craigs ville, and at mile 61.5.

DRAINAGE AREA.--529 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1982 (daily discharge and peaks), October 1982 to September 1983 (daily mean gage height and annual maxima), October 1985 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,869.55 ft above NAVD 88 (1,870.00 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 4, 1932 is estimated as 65,000 ft³/s and flood of July 19, 1954, is estimated as 55,000 ft³/s on the basis of discharge-area comparison with Gauley River at Camden on Gauley (03187000) and Gauley River near Summersville (03189500).

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1965 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	735	1,437	1,865	1,906	2,054	2,624	2,029	1,680	946	779	625	517
Max	3,531	4,464	3,561	3,722	3,928	4,968	3,525	3,575	2,730	2,270	2,819	2,056
(WY)	(1977)	(1986)	(1979)	(1996)	(1994)	(1967)	(1987)	(1996)	(1974)	(2001)	(1989)	(2003)
Min	49.1	78.7	341	464	551	1,157	676	463	100	58.3	67.9	26.9
(WY)	(1993)	(2002)	(1966)	(1977)	(1978)	(2006)	(1995)	(1991)	(1991)	(1999)	(1988)	(2008)

DISCHARGE SUMMARY STATISTICS

Water Years 1965 – 2008	
Annual mean	1,430
Highest annual mean	1,944 1996
Lowest annual mean	854 1999
Highest daily mean	29,800 Oct 9, 1976
Lowest daily mean	8.2 Sep 12, 1995
Annual seven-day minimum	9.0 Sep 10, 1995
Maximum peak flow	^a 63,500 Nov 19, 2003 (25.94 ft stage)
Instantaneous low flow	7.6 Aug 22, 1987
Annual runoff (cfsm)	2.70
Annual runoff (inches)	36.74
10 percent duration	3,250
50 percent duration	836
90 percent duration	110
Climatic Years 1930 – 2002 (Wiley, 2006)	
1 day 10 yr low flow	19.5
7 day 10 yr low flow	24.5
30 day 5 yr low flow	81.6
1 day 3 yr bio-based low flow	17.0
4 day 3 yr bio-based low flow	23.9
10 percent duration	3,340
50 percent duration	820
90 percent duration	145
EPA harmonic mean	340

^a From rating curve extended above 35,000 ft³/s, highest since 1932.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1981 to September 1982.

WATER TEMPERATURE: November 1974 to April 1977, November 1980 to September 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 70 microsiemens, Sept. 22, 1982; minimum daily, 28 microsiemens, Nov. 29, 1981, Mar. 17, 23, Apr. 20, June 11, 1982.

WATER TEMPERATURE: Maximum, 31.0°C, Aug. 1, 2, 1975; minimum, 0.0°C on many days in 1981 and 1982.

03189500 GAULEY RIVER NEAR SUMMERSVILLE, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°16'15", long 80°49'10" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, on right bank at Brocks Bridge, 500 ft downstream from Muddlety Creek, and 2 mi east of Summersville.

DRAINAGE AREA.--680 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1908 to December 1909 (monthly discharge published in WSP 1305, and maximum discharge), January 1909 to September 1916, and October 1928 to September 1965 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is 1,580.90 ft above COE 12. Prior to Sept. 30, 1916, chain gage at present site and datum 2.00 ft lower. Nov. 23, 1928 to Jan. 4, 1939, chain gage at present site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--45 years, 1,542 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1909 - 1965		
Highest daily mean	32,300	Oct 28, 1937
Lowest daily mean	0.70	Oct 19, 1953
Annual seven-day minimum	0.70	Oct 19, 1953
Maximum peak flow	^a 77,700	Jul 4, 1932 (^b 28.75 ft stage)
Instantaneous low flow	0.60	Oct 27, 1953
10 percent duration	3,610	
50 percent duration	848	
90 percent duration	92	
Climatic Years 1930 - 2002 (Wiley, 2006)		
1 day 10 yr low flow	5.19	
7 day 10 yr low flow	6.30	
30 day 5 yr low flow	26.5	
1 day 3 yr bio-based low flow	6.43	
4 day 3 yr bio-based low flow	9.21	
10 percent duration	3,710	
50 percent duration	869	
90 percent duration	85.1	
EPA harmonic mean	114	

^a From rating extended above 23,000 ft³/s on basis of contracted-opening measurement at 28.75 ft.

^b From floodmarks.

03189600 GAULEY RIVER BELOW SUMMERSVILLE DAM, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°12'54", long 80°53'18" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, on right bank, 0.4 mi downstream from Summersville Dam, 5 mi southwest of Summersville and at mile 35.3

DRAINAGE AREA.--806 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1966 to September 1982 (daily discharge and annual maximum), October 1986 to September 1986 (gage height and annual maxima), October 1986 to September 2003 (daily discharge and annual maxima), October 2004 to September 2008 (annual maximum gage height).

REVISED RECORDS.--WDR WV-67: 1966. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,349.45 ft above NAVD 88 (VERTCON conversion of 1,350.00 ft above NGVD 29, levels by U.S. Army Corps of Engineers).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,766	2,552	2,540	2,764	2,852	3,182	1,339	2,282	1,464	1,071	1,124	1,323
Max	5,705	5,434	4,995	5,825	6,258	5,802	5,468	5,074	4,222	3,052	3,882	3,852
(WY)	(1977)	(2003)	(1973)	(1974)	(1994)	(1993)	(1966)	(1996)	(2003)	(1979)	(1989)	(2003)
Min	484	159	361	596	729	1,073	52.2	141	122	124	19.0	490
(WY)	(1989)	(1979)	(2002)	(1977)	(1967)	(2000)	(1971)	(1991)	(1991)	(1999)	(1966)	(1967)

DISCHARGE SUMMARY STATISTICS	
Water Years 1966 - 2003	
Annual mean	2,018
Highest annual mean	2,741 1972
Lowest annual mean	1,159 1999
Highest daily mean	18,000 Aug 24, 1989
Lowest daily mean	2.4 Feb 10, 13-16, 1967
Annual seven-day minimum	2.5 Feb 10, 1967
Maximum peak flow	18,200 Aug 24, 1989 (19.39 ft stage)
Instantaneous low flow	1.9 Feb 16, 17, 1967
10 percent duration	4,730
50 percent duration	1,250
90 percent duration	208

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1980 to September 1982.

WATER TEMPERATURE: November 1974 to April 1977, November 1980 to September 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 89 microsiemens, Oct. 27, 1981; minimum daily, 43 microsiemens, June 15, 1981.

WATER TEMPERATURE: Maximum, 23.0°C, Aug. 26, Sept. 3, 1975; minimum, 0.5°C, Jan. 9, 1975.

03189650 COLLISON CREEK NEAR NALLEN, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°10'35", long 80°52'07" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, on right bank 10 ft upstream from culvert on U.S. Highway 19, 80 ft upstream from unnamed tributary, 4.5 mi north of Nallen, and at mile 3.2.

DRAINAGE AREA.--2.78 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1966 (annual maxima), October 1966 to September 1977 (daily discharge and peaks).

GAGE.--Water-stage recorder. Elevation of gage is approximately 1,829.46 ft above NAVD 88 (VERTCON conversion of 1,830 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS	
Water Years 1967 - 1977	
Annual mean	4.71
Highest daily mean	183 Dec 30, 1969
Lowest daily mean	0.00 Sep 15, 1967
Annual seven-day minimum	0.00 Sep 15, 1967
Maximum peak flow	^a 342 Jun 2, 1974 (9.81 ft stage)
Instantaneous low flow	0.00 Sep 15-27, 1967
10 percent duration	11
50 percent duration	2.0
90 percent duration	0.08
Climatic Years 1930 – 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.00
7 day 10 yr low flow	0.00
30 day 5 yr low flow	0.08
1 day 3 yr bio-based low flow	0.04
4 day 3 yr bio-based low flow	0.04
10 percent duration	11.1
50 percent duration	2.1
90 percent duration	0.1
EPA harmonic mean	0.28

^a From rating curve extended above 120 ft³/s on basis of culvert-rating computation.

03189890 MEADOW RIVER AT MCROSS, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 37°59'37", long 80°44'53" referenced to North American Datum of 1927, Greenbrier County, WV, Hydrologic Unit 05050005, on right bank on downstream side of highway bridge at McRoss, 1.4 mi upstream from Sewell Creek, and at mile 32.6.

DRAINAGE AREA.--163 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1979 to September 1982 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 2,399.51 ft above NAVD 88 (VERTCON conversion of 2,400 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1980 - 1982		
Highest daily mean	2,890	Feb 4, 1982
Lowest daily mean	6.9	Oct 23, 1980
Annual seven-day minimum	7.3	Oct 17, 1980
Maximum peak flow	3,060	Feb 4, 1982
		(12.60 ft stage)
10 percent duration	923	
50 percent duration	190	
90 percent duration	27	

03190000 MEADOW RIVER AT NALLEN, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°06'45", long 80°52'35" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050005, on left bank at highway bridge at Nallen, 0.3 mi downstream from highway bridge on U.S. Highway 19, 2.0 mi upstream from Anglins Creek, 3.0 mi downstream from Brackens Creek, and at mile 11.0.

DRAINAGE AREA.--287 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1908 to December 1908 (monthly discharge only published in WSP 1305), January 1909 to September 1916 (daily discharge and peaks, published as Meadow River near Russellville), December 1928 to September 1971 (daily discharge and peaks).

REVISED RECORDS.--WSP 783: Drainage area. WSP 1033: 1930(M), 1932(M), 1934-36.

GAGE.--Water-stage recorder. Datum of gage is 1,869.47 ft above COE 12. Prior to Oct. 27, 1942, chain gage at present site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--51 years, 529 ft³/s, 25.03 in/yr.

DISCHARGE SUMMARY STATISTICS		
Water Years 1909 - 1971		
Highest daily mean	10,900	Mar 5, 1934
Lowest daily mean	0.00	(a)
Annual seven-day minimum	0.00	Sep 28, 1930
Maximum peak flow	^b 11,200	Mar 5, 1934
Maximum peak stage (ft)	16.95	Mar 7, 1967
Instantaneous low flow	0.00	(a)
10 percent duration	1,330	
50 percent duration	256	
90 percent duration	22	
Climatic Years 1930 - 2002 (Wiley, 2006)		
1 day 10 yr low flow	0.91	
7 day 10 yr low flow	1.90	
30 day 5 yr low flow	6.86	
1 day 3 yr bio-based low flow	0.96	
4 day 3 yr bio-based low flow	1.28	
10 percent duration	1,380	
50 percent duration	258	
90 percent duration	20.0	

EPA harmonic mean

41.1

^a No flow at times in 1930, and Oct. 27, 1953, caused by temporary storage behind earth dam upstream.

^b From rating curve extended above 8,500 ft³/s.

03190100 ANGLINS CREEK NEAR NALLEN, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°08'28", long 80°50'13" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, and 0.7 mi southeast of Runa, 2 mi southeast of Pool, and 3 mi northeast of Nallen.

DRAINAGE AREA.--23.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1998 to September 2007 (annual maxima).

REVISED RECORDS.--WDR WV-2004-1: 2001(M).

GAGE.--Crest-stage gage. Datum of gage is approximately 1939.47 ft above NAVD 88 (1,940 ft above NGVD 29, from topographic map).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,900 ft³/s, July 29, 2001, gage height, 16.38 ft.

03190400 MEADOW RIVER NEAR MOUNT LOOKOUT, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°11'23", long 80°56'49" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, on right bank 1,000 ft upstream from mouth, and 2.5 mi northwest of Mount Lookout.

DRAINAGE AREA.--365 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1966 to September 1983, and October 1985 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-99-1: 1998 (m). WDR WV-2004-1: 2001 (M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is approximately 1,199.42 ft above NAVD 88 (VERTCON conversion of 1,200 ft above NGVD 29, from topographic map).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1966 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	291	630	909	1,039	1,196	1,408	1,112	926	488	326	278	180
Max	1,574	2,383	1,710	2,246	2,366	2,583	2,687	1,944	1,642	1,241	1,074	793
(WY)	(1977)	(2004)	(1973)	(1996)	(1998)	(1993)	(1987)	(1996)	(2003)	(2001)	(1969)	(2003)
Min	8.18	25.4	158	140	355	550	368	271	53.7	32.2	12.9	13.1
(WY)	(1992)	(2002)	(2002)	(1977)	(2002)	(2006)	(1995)	(1976)	(1999)	(1991)	(1987)	(1983)

DISCHARGE SUMMARY STATISTICS		
Water Years 1966 – 2008		
Annual mean	730	
Highest annual mean	1,055	2003
Lowest annual mean	410	1988
Highest daily mean	14,200	Feb 26, 1972
Lowest daily mean	4.1	Aug 21, 22, 1987
Annual seven-day minimum	5.7	Oct 8, 1991
Maximum peak flow	^a 27,200	Nov 19, 2003
	^b 16.31 ft stage)	
Instantaneous low flow	3.0	Aug 22, 1987
Annual runoff (cfsm)	2.00	
Annual runoff (inches)	27.17	
10 percent duration	1,800	
50 percent duration	401	
90 percent duration	43	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	4.74	
7 day 10 yr low flow	5.52	
30 day 5 yr low flow	12.8	
1 day 3 yr bio-based low flow	5.15	
4 day 3 yr bio-based low flow	6.48	
10 percent duration	1,820	
50 percent duration	360	
90 percent duration	25.7	
EPA harmonic mean	77.4	

^a From rating curve extended above 15,000 ft³/s on basis of slope-conveyance study.

^b From floodmarks.

03190500 MEADOW CREEK NEAR SUMMERSVILLE, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°13'31", long 80°55'57" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, at culvert on Secondary Route 23, 0.7 mile south of Keslers Cross Lanes, 2.4 miles upstream from mouth, and 6 miles southeast of Summersville.

DRAINAGE AREA.--4.22 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1976 (annual maxima).

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 512 ft³/s, Dec. 31, 1975, gage height, 8.24 ft.

03191000 GAULEY RIVER NEAR LEANDER, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°12'10", long 81°00'50" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050005, 100 ft below Ramsey Branch, and 1 mi northeast of Leander.

DRAINAGE AREA.--1,230 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1925 to March 1930 (daily discharge).

GAGE.--Staff gage on left bank. Datum of gage is 981.17 ft above COE 12.

DISCHARGE SUMMARY STATISTICS		
Water Years 1925 - 1930		
Highest daily mean	38,000	Oct 3, 1929
Lowest daily mean	26	Sep 7, 1925
Annual seven-day minimum	29	Sep 11, 1925
10 percent duration	6,880	
50 percent duration	2,170	
90 percent duration	380	

03191400 LAUREL CREEK NEAR SUMMERSVILLE, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°15'28", long 80°59'24" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, at culvert on Secondary Route 22, at intersection of Secondary Route 11 and 22, at Tipton, 1.4 miles upstream from mouth, and 7.8 miles southwest of Summersville.

DRAINAGE AREA.--4.28 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1977, October 1994 to September 1998 (annual maxima).

GAGE.--Crest-stage gage.

REVISED RECORDS.--OFR 2008-1087: Drainage area.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,900 ft³/s, June 27, 1995, gage height, 13.20 ft., affected by backwater.

03191500 PETERS CREEK NEAR LOCKWOOD, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°15'45", long 81°01'24" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, on left bank, along State Route 39, 0.8 mi downstream from Tate Run, 1.6 mi upstream from Line Creek and Lockwood, and at mile 5.3.

DRAINAGE AREA.--40.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1945 to September 1971, October 1979 to September 1982, October 1996 to September 1998, and February 2003 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-80-1: Drainage area. WDR US-WV-2006: 2003-04 (P).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,064.10 ft above NAVD 88 (VERTCON conversion of 1,064.70 ft above NGVD 29). Prior to February 2003 at site 0.1 mi downstream at datum 0.07 ft higher. Prior to September 30, 1971, at site 0.6 mi downstream at datum 1,058.92 ft above NAVD 88. Prior to November 2, 1945, nonrecording gage and November 2, 1945, to Aug. 2, 1955, water-stage recorder near present site at datum 1,071.59 ft above NAVD 88.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of June 27, 1995, reached a stage of 19.70 ft (from floodmarks, discharge, 11,200 ft³/s, highest since 1946.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1946 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	20.3	50.5	78.8	95.2	112	132	101	73.5	44.8	34.0	29.5	16.6
Max	105	230	168	191	204	297	191	171	219	134	172	115
(WY)	(1980)	(2004)	(1951)	(1950)	(1955)	(1963)	(2004)	(1967)	(2003)	(1958)	(1958)	(2003)
Min	0.12	0.52	4.60	22.0	30.8	52.6	23.5	13.3	2.32	1.85	0.24	0.29
(WY)	(1954)	(1954)	(1966)	(1966)	(1954)	(1966)	(1963)	(1964)	(1966)	(1957)	(1957)	(1946)

DISCHARGE SUMMARY STATISTICS

Water Years 1946 – 2008	
Annual mean	64.8
Highest annual mean	108 1950
Lowest annual mean	29.3 1966
Highest daily mean	3,000 Aug 2, 1958
Lowest daily mean	0.00 Sep 6-9, 1957
Annual seven-day minimum	0.00 Sep 3, 1957
Maximum peak flow	^a 8,340 Jun 16, 2003 (18.35 ft stage)
Instantaneous low flow	0.00 Sep 6-9, 1957
Annual runoff (cfsm)	1.61
Annual runoff (inches)	21.90
10 percent duration	152
50 percent duration	28
90 percent duration	3.6
Climatic Years 1930 – 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.04
7 day 10 yr low flow	0.07
30 day 5 yr low flow	0.84
1 day 3 yr bio-based low flow	0.00
4 day 3 yr bio-based low flow	0.00
10 percent duration	167
50 percent duration	26.2
90 percent duration	2.8
EPA harmonic mean	2.07

^a From rating curve extended above 7,800 ft³/s on basis of step-backwater analysis.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1997 to September 1998.

pH: January 1997 to September 1998.

WATER TEMPERATURE: January 1997 to September 1998.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 626 microsiemens, Sept. 9, 1997; minimum recorded, 88 microsiemens, Mar. 3, 1997.
 pH: Maximum recorded, 9.1 units, July 13, 1997; minimum recorded, 6.7 units, Mar. 21-25, 1998.
 WATER TEMPERATURE: Maximum recorded, 28.6°C, July 21, 1997; minimum recorded, -0.3°C, Jan. 12, 14, Dec. 31, 1997, Jan. 1, 1998.

03192000 GAULEY RIVER ABOVE BELVA, WV

Kanawha Basin
 Gauley Subbasin

LOCATION.--Lat 38°14'00", long 81°10'52" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, on right bank 0.5 mi upstream from Belva, 1.0 mi upstream from Twentymile Creek, and at mile 6.3.

DRAINAGE AREA.--1,317 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1928 to September 1964 (daily discharge and peaks, monthly discharge only for some periods published in WSP 1305), October 1964 to September 2008 (daily discharge and annual maxima).

REVISED RECORDS.--WSP 873: 1938. WSP 1275: 1929-30. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 669.00 ft above COE 12.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow regulated since May 1965 by Summersville Dam. Unregulated statistics of monthly mean data and summary statistics for water years 1929-1964 are also published.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 13, 1918 reached a stage of about 30 ft, discharge about 112,000 ft³/s, highest since 1909.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1929 - 1964, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	819	1,785	3,027	4,022	4,542	5,790	3,963	2,903	1,552	1,524	1,264	532
Max	4,859	5,609	6,421	7,870	8,926	11,660	8,691	5,737	6,164	6,141	4,871	2,824
(WY)	(1938)	(1930)	(1943)	(1937)	(1939)	(1963)	(1958)	(1929)	(1940)	(1932)	(1958)	(1950)
Min	5.90	23.1	410	437	1,084	3,000	1,166	547	156	22.4	26.7	13.3
(WY)	(1954)	(1931)	(1940)	(1940)	(1934)	(1937)	(1942)	(1964)	(1936)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1929 - 1964	
Annual mean	2,631
Highest annual mean	3,803 1950
Lowest annual mean	1,606 1941
Highest daily mean	60,900 Jul 5, 1932
Lowest daily mean	3.2 Oct 21, 1953
Annual seven-day minimum	3.6 Oct 20, 1953
Maximum peak flow	^a 105,000 Jul 5, 1932 (28.60 ft stage)
Instantaneous low flow	3.2 Oct 21, 1953
10 percent duration	6,280
50 percent duration	1,390
90 percent duration	129

^a From rating curve extended above 65,000 ft³/s on basis of velocity-area studies and inflow and storage adjustment to record for Kanawha River at Kanawha Falls.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1965 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,928	3,442	3,676	3,892	4,320	4,981	2,776	3,345	1,934	1,492	1,362	1,454
Max	7,547	10,490	7,270	8,493	9,534	9,591	7,050	7,802	6,640	4,779	5,053	5,078
(WY)	(1977)	(2004)	(1973)	(1974)	(1994)	(1993)	(1987)	(1996)	(2003)	(2001)	(1989)	(2003)
Min	124	70.8	85.6	276	1,471	1,971	611	538	236	187	36.8	72.5
(WY)	(1966)	(1966)	(1966)	(1966)	(2002)	(2006)	(1986)	(1991)	(1991)	(1999)	(1965)	(1965)

DISCHARGE SUMMARY STATISTICS

Water Years 1965 - 2008	
Annual mean	2,878
Highest annual mean	4,048 2003
Lowest annual mean	1,452 1966
Highest daily mean	32,000 Jul 29, 2001
Lowest daily mean	11 Sep 10, 1965
Annual seven-day minimum	17 Sep 4, 1965
Maximum peak flow	47,800 Nov 19, 2003 (19.23 ft stage)
Instantaneous low flow	9.6 Sep 11, 1965
10 percent duration	6,800
50 percent duration	1,680
90 percent duration	390
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	14.0
7 day 10 yr low flow	15.8
30 day 5 yr low flow	45.8
1 day 3 yr bio-based low flow	15.0
4 day 3 yr bio-based low flow	17.0
10 percent duration	6,510
50 percent duration	1,430
90 percent duration	138
EPA harmonic mean	264

03192200 TWENTYMILE CREEK AT VAUGHAN, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°16'40", long 81°08'37" referenced to North American Datum of 1983, Nicholas County, WV, Hydrologic Unit 05050005, at Vaughan, 200 ft upstream from Rockcamp Fork, and 3 mi northeast of Dixie.

DRAINAGE AREA.--46.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1999 to September 2000 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 797.41 ft above NAVD 88 (VERTCON conversion of 798 ft above NGVD 29, from GPS).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,660 ft³/s, Feb. 19, 2000, gage height, 7.03 ft; minimum daily, 20 ft³/s, Nov. 20-24, 1999.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 2000 - 2000, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	---	---	36.4	31.3	124	64.5	116	58.2	73.0	51.6	74.8	58.1
Max	---	---	36.4	31.3	124	64.5	116	58.2	73.0	51.6	74.8	58.1
(WY)	(---	(---	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)
Min	---	---	36.4	31.3	124	64.5	116	58.2	73.0	51.6	74.8	58.1
(WY)	(---	(---	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)

03192500 GAULEY RIVER AT BELVA, WV

Kanawha Basin
Gauley Subbasin

LOCATION.--Lat 38°13'30", long 81°11'30" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, 0.25 mi downstream of the Chesapeake and Ohio Railroad Bridge at Belva, and 0.12 mi downstream from Twentymile Creek.

DRAINAGE AREA--1,402 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1908 to September 1916 (daily discharge and peaks), October 1917 to September 1918, and October 1925 to September 1930 (peaks). Published as Gauley River near Belva October 1910 to September 1913 and October 1914 to September 1915.

REVISED RECORDS.--WSP 1305: Drainage area.

GAGE.--Chain gage. Datum of gage is 663.53 ft above COE 12.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Estimates of 1934 and 1954 floods were published in WDR WV-98-1.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Maximum discharge, 112,000 ft³/s, Mar. 13, 1918, gage height, 34 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 5, 1932 is estimated as 105,000 ft³/s and flood of July 19, 1954 is estimated as 67,500 ft³/s (revised) based on comparisons of drainage areas and the Mar. 13, 1918 flood with Gauley River above Belva (03192000). Flood of July 19, 1954 is estimated as 67,500 ft³/s.

DISCHARGE SUMMARY STATISTICS

Water Years 1908 - 1916

Annual mean	2,604	
Highest daily mean	27,000	Jan 30, 1911
Lowest daily mean	30	Sep 30, 1908
Annual seven-day minimum	32	Sep 28, 1908
Maximum peak flow	50,000	Jan 30, 1911
Instantaneous low flow	30	Sep 30, 1908
10 percent duration	6,620	
50 percent duration	1,520	
90 percent duration	230	

03193000 KANAWHA RIVER AT KANAWHA FALLS, WV

Kanawha Basin
Upper Kanawha Subbasin

LOCATION.--Lat 38°08'17", long 81°12'52" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050006, on right bank 150 ft downstream from bridge, 0.8 mi downstream from village of Kanawha Falls, 2.0 mi downstream from Gauley Bridge, 2.0 mi downstream from confluence of New River and Gauley River, and at mile 94.3.

DRAINAGE AREA.--8,371 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1877 to September 2008 (daily discharge and annual maxima). October 1916 to September 1918 and October 1927 to October 1928, published as Kanawha River at Lock 2, Montgomery.

REVISED RECORDS.--WSP 923: 1878, 1886, 1897, 1899, 1901-03. WSP 1305: 1902(M), 1940. WSP 1335: 1931. WDR WV-82-1: Drainage area. WDR-US-2008: 1904, 1920, 1924, 1927.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 620.57 ft above NAVD 88 (621.18 ft above NGVD 29). Prior to Oct. 27, 1928, nonrecording gages at several sites within 9.0 mi of present site at various datums. Oct. 27, 1928, to Sept. 30, 1964, water-stage recorder at present site at datum 2.00 ft higher.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow regulated since May 1939 by Claytor Dam, since August 1949 by Bluestone Dam, and since May 1965 by Summersville Dam. Unregulated statistics of monthly mean data and summary statistics for water years 1877-1938 are also published.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1877 - 1938, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6,529	8,513	12,670	19,170	21,700	24,400	19,440	14,670	10,260	7,556	6,486	5,279
Max	23,470	23,460	34,030	38,890	52,880	52,620	46,930	38,140	35,870	20,210	22,440	21,070
(WY)	(1938)	(1878)	(1902)	(1882)	(1884)	(1899)	(1901)	(1901)	(1901)	(1916)	(1901)	(1888)
Min	1,133	1,514	2,691	5,600	3,181	10,160	8,151	4,797	2,546	1,290	1,394	1,308
(WY)	(1931)	(1923)	(1931)	(1931)	(1934)	(1925)	(1915)	(1930)	(1930)	(1930)	(1925)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1877 - 1938

Annual mean	13,020	
Highest annual mean	21,210	1901
Lowest annual mean	7,591	1904
Highest daily mean	266,000	May 23, 1901
Lowest daily mean	690	Oct 29, 1921
Annual seven-day minimum	984	Oct 7, 1930
Maximum peak flow	^a 320,000	Sep 14, 1878
	^b 37.80 ft stage)	
Instantaneous low flow	640	Aug 15, 1930
10 percent duration	27,900	
50 percent duration	8,330	
90 percent duration	2,550	

^a From gage-height relationship and rating curve extended above 150,000 ft³/s.

^b Site then in use, 39.80 ft gage height at current datum.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1939 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5,884	9,198	12,860	15,960	19,760	23,280	17,960	14,480	9,201	6,382	5,754	4,907
Max	24,980	35,220	29,690	38,490	42,410	50,300	50,240	29,510	30,120	16,040	23,350	18,960
(WY)	(1977)	(2004)	(1973)	(1996)	(1957)	(1955)	(1987)	(1996)	(2003)	(2001)	(1940)	(2004)
Min	1,452	1,669	2,174	2,412	5,457	7,272	5,065	4,051	2,450	2,167	1,945	1,510
(WY)	(1954)	(1954)	(1966)	(1940)	(2002)	(2006)	(1986)	(1941)	(1999)	(1966)	(1944)	(1953)

DISCHARGE SUMMARY STATISTICS

	Water Years 1939 – 2008	
Annual mean	12,100	
Highest annual mean	19,960	2003
Lowest annual mean	6,792	1988
Highest daily mean	163,000	Aug 15, 1940
Lowest daily mean	970	Sep 30, 1953
Annual seven-day minimum	1,230	Sep 23, 1963
Maximum peak flow	248,000	Aug 15, 1940 (^a 29.60 ft stage)
Instantaneous low flow	(b)	(b)
10 percent duration	26,700	
50 percent duration	7,620	
90 percent duration	2,590	

^a 31.60 ft gage height at current datum.

^b Not determined.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: December 1957 to September 1966, July 1968 to May 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 29.0°C, Aug. 1-7, 1975; minimum, 0.0°C on several days during 1958-60, 1963, 1971, 1978.

03193725 LITTLE FORK NEAR MOSSY, WV

Kanawha Basin
Upper Kanawha Subbasin

LOCATION.--Lat 37°58'52", long 81°16'25" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050006, at culvert on State Route 15, 100 ft upstream from mouth, and 0.6 mi northeast of Mossy.

DRAINAGE AREA.--0.42 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1977 (annual maxima). Water years 1969, 1970, and 1973 published in OFR 80-560.

GAGE.--Crest-stage gage.

REVISED RECORDS--OFR 2008-1087: Drainage area.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48 ft³/s, June 2, 1974, gage height, 5.82 ft.

03193742 KANAWHA RIVER AT GLASGOW, WV

Kanawha Basin
Upper Kanawha Subbasin

LOCATION.--Lat 38°12'23", long 81°25'30" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050006, on right bank at Glasgow Power Plant, at Glasgow, 0.6 mi upstream from Kellys Creek, and at mile 78.4.

DRAINAGE AREA.--8631 mi².

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 1977 to September 1992.

REMARKS.--Once-daily water-temperature readings furnished by Appalachian Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 30.0°C, Aug. 21, 1978, Aug. 3, 1981, July 22, Aug. 21, 1983, July 12, 1984, July 25, 1986, July 25-27, 1987; minimum daily, -1.0°C, Jan. 10, 12, 1988.

03193760 GREENS BRANCH AT FAIRFIELD, WV

Kanawha Basin
Upper Kanawha Subbasin

LOCATION.--Lat 38°08'09", long 81°26'48" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050006, at culvert on State Route 79 at Fairfield, and at mile 0.06.

DRAINAGE AREA.--2.25 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1973 (annual maxima). Water years 1966 and 1969 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 374 ft³/s, Dec. 30, 1969, gage height, 8.25 ft.

03193770 KANAWHA RIVER AT CABIN CREEK, WV

Kanawha Basin
Upper Kanawha Subbasin

LOCATION.--Lat 38°11'58", long 81°28'41" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050006, at the Appalachian Electric Power Company, Cabin Creek steam electric cooling water intakes, at Cabin Creek.

DRAINAGE AREA--8,661 mi².

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1950 to September 1972 (partial records), October 1972 to June 1977.

REMARKS.--Once-daily water-temperature readings furnished by Appalachian Electric Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 33.0°C on several days in August 1955 and 1959; minimum daily, -0.5°C, Jan. 6, 1977.

03193776 RIGHT FORK LITTLE CREEK NR CHELYAN, WV

Kanawha Basin
Upper Kanawha Subbasin

LOCATION.--Lat 38°10'45", long 81°31'05" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050006, on left bank 100 ft upstream from Left Fork, 2,500 ft upstream from end of State Highway 72/1, and 2.1 mi southwest of Chelyan.

DRAINAGE AREA.--0.91 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February to September 1983 (daily discharge).

GAGE.--Water-stage recorder and concrete control. Datum of gage is approximately 829.36 ft above NAVD 88 (VERTCON conversion of 830 ft above NGVD 29, from topographic map).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 185 ft³/s, Aug. 1, 1983, gage height, 3.53 ft, from rating extended above 20 ft³/s on basis of runoff comparison with nearby stations; no flow part of each day Sept. 24, 25, 1983.

03193778 LITTLE CREEK NEAR CHELYAN, WV

Kanawha Basin
Upper Kanawha Subbasin

LOCATION.--Lat 38°10'57", long 81°30'45" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050006, on right bank 500 ft above end of State Highway 72/1, 1.8 mi southwest of Chelyan, and at mile 1.0.

DRAINAGE AREA.--1.44 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1982 to September 1984 (daily discharge).

GAGE.--Water-stage recorder and concrete control. Datum of gage is approximately 749.36 ft above NAVD 88 (VERTCON conversion of 750 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1982 - 1984		
Highest daily mean	100	May 30, 1982
Lowest daily mean	0.06	Oct 27, 1982
Annual seven-day minimum	0.07	Sep 28, 1983
Maximum peak flow	^a 415	May 30, 1982 (5.00 ft stage)
Instantaneous low flow	0.05	Oct 10, 11, 1983
10 percent duration	4.1	
50 percent duration	0.98	
90 percent duration	0.11	

^a From rating curve extended above 150 ft³/s on basis of slope-area measurement of peak flow.

03193830 GILMER RUN NEAR MARLINTON, WV

Kanawha Basin
Upper Kanawha Subbasin

LOCATION.--Lat 38°19'12", long 80°05'52" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 0505000, on left bank 8.0 ft upstream from culvert on Forest Service Road 251, and 6.8 mi north of Marlinton.

DRAINAGE AREA.—1.80 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1968 to September 1977 (daily discharge and peaks), October 1998 to September 2008 (annual maxima).

REVISED RECORDS.--WDR WV-72: 1969-71(P). WDR WV-2003-1: 1977(P).

GAGE.-- Crest-stage gage. Datum of gage is approximately 1,119.76 ft above NAVD 88 (VERTCON conversion of 3,120 ft above NGVD 29, from topographic map). Prior to Sept. 30, 1977, water-stage recorder at same site and datum.

REMARKS.-- Water-discharge records in ft³/s, stage readings in ft.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--9 years, 3.96 ft³/s.

EXTREMES FOR PERIOD OF RECORD.-- Maximum discharge, 1,110 ft³/s, May 10, 2003, gage height, 10.34 ft.

03194000 ELK RIVER AT WEBSTER SPRINGS, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°28'30", long 80°24'50" referenced to North American Datum of 1927, Webster County, WV, Hydrologic Unit 05050007, on right bank at abutment of suspension bridge, 0.25 mi upstream from Back Fork.

DRAINAGE AREA.--168 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.—July 1908 to September 1916 (daily discharge and peaks).

GAGE.--Staff gage. Datum of gage is approximately 1,499.50 ft above NAVD 88 (VERTCON conversion of 1,500 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 4, 1985, reached a peak discharge of approximately 27,000 ft³/s.

DISCHARGE SUMMARY STATISTICS

Water Years 1908 - 1916

Annual mean	408	
Highest daily mean	8,360	Jan 30, 1911
Lowest daily mean	4.4	Aug 25, 1911
Annual seven-day minimum	7.3	Oct 5, 1908
Maximum peak flow	^a 17,300	Jan 29, 1911 (11.00 ft stage)
Instantaneous low flow	4.0	Aug 25, 1911
10 percent duration	945	
50 percent duration	203	
90 percent duration	26	

^a From rating curve extended above 1,300 ft³/s.

03194500 ELK RIVER BELOW BACK FORK AT WEBSTER SPRINGS, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°28'50", long 80°25'15" referenced to North American Datum of 1927, Webster County, WV, Hydrologic Unit 05050007, at West Virginia Midland Railroad bridge, 0.25 mi downstream from Back Fork, and 0.5 mi west of Webster Springs.

DRAINAGE AREA.--242 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1929 to December 1934 (daily discharge and peaks).

GAGE.--Chain or staff gage. Datum of gage is approximately 1,450 ft above NGVD 29 (from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1930 - 1935		
Annual mean	572	
Highest daily mean	12,600	Feb 4, 1932
Lowest daily mean	1.4	Sep 24, 1930
Annual seven-day minimum	1.8	Sep 19, 1930
Maximum peak flow	^a 26,000	Jul 4, 1932 (12.98 ft stage)
Instantaneous low flow	1.4	Sep 23-25, 1930
10 percent duration	1,310	
50 percent duration	325	
90 percent duration	18	

^a From rating curve extended above 3,200 ft³/s on basis of velocity-area study.

03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°35'50", long 80°29'26" referenced to North American Datum of 1927, Webster County, WV, Hydrologic Unit 05050007, on right bank 200 ft upstream from bridge on County Highway 7, 6.5 mi upstream from town of Centralia, 8.9 mi southwest of Salisburg Station, 8.9 mi northwest of Webster Springs, and at mile 125.2.

DRAINAGE AREA.--266 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1929 to September 1959 (estimated annual maximum discharge), October 1959 to September 1983, and October 1985 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is approximately 1,019.52 ft above NAVD 88 (VERTCON conversion of 1,020.1 ft above NGVD 29, from barometric leveling).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1861, probably in September, reached a stage of 26.34 ft and flood of July 26, 1896, reached a stage of 25.87 ft, present datum, at site 0.2 mi upstream, from levels to floodmarks pointed out by a local resident.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1960 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	325	683	881	906	1,011	1,316	1,035	798	466	364	290	226
Max	1,376	2,293	1,940	1,866	2,124	2,820	1,784	2,077	1,435	958	1,171	1,090
(WY)	(1977)	(1986)	(1973)	(1996)	(1994)	(1963)	(2002)	(1996)	(1974)	(1996)	(1989)	(2003)
Min	15.1	45.1	199	202	227	477	312	137	48.9	31.6	23.3	16.4
(WY)	(1964)	(2002)	(1966)	(1977)	(1978)	(2006)	(1963)	(1964)	(1965)	(1999)	(1993)	(1999)

DISCHARGE SUMMARY STATISTICS

Water Years 1960 – 2008	
Annual mean	690
Highest annual mean	997 1996
Lowest annual mean	415 1999
Highest daily mean	15,200 Apr 26, 1989
Lowest daily mean	4.9 Sep 12, 1995
Annual seven-day minimum	5.2 Sep 9, 1995
Maximum peak flow	^a 38,000 Nov 4, 1985 ^b (17.20 ft stage)
Instantaneous low flow	4.8 Sep 11-13, 1995
Annual runoff (cfsm)	2.60
Annual runoff (inches)	35.26
10 percent duration	1,620
50 percent duration	386
90 percent duration	59
Climatic Years 1930 – 2002 (Wiley, 2006)	
1 day 10 yr low flow	11.6
7 day 10 yr low flow	13.5
30 day 5 yr low flow	33.5
1 day 3 yr bio-based low flow	10.0
4 day 3 yr bio-based low flow	11.0
10 percent duration	1,670
50 percent duration	392
90 percent duration	68.9
EPA harmonic mean	159

^a From rating curve extended above 24,000 ft³/s, highest since 1896.

^b From floodmarks.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: February 1974 to June 1977, November 1977 to September 1982

TURBIDITY: January 1974 to March 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 31.0°C, Aug. 1, 2, 1975; minimum, 0.0°C on many days during winter periods.

TURBIDITY: Maximum, 700 JTU, June 2, 1974; minimum, 1 JTU on many days.

03195000 ELK RIVER AT CENTRALIA, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°37'00", long 80°33'20" referenced to North American Datum of 1927, Braxton County, WV, Hydrologic Unit 05050007, 200 ft upstream from Houston run, and 0.6 mi upstream from Laurel Creek.

DRAINAGE AREA.--281 mi², includes that of Houston Run.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1934 to November 1934 (monthly discharge only, published in WSP 1305), December 1934 to September 1963 (daily discharge and peaks).

REVISED RECORDS.--WSP 1305: 1936 (M). WDR WV-97-1: 1935(P), 1936(P).

GAGE.--Water-stage recorder. Datum of gage is 931.31 ft above NAVD 88 (VERTCON conversion of 931.89 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1935 - 1963		
Annual mean	665	
Highest daily mean	14,700	Oct 28, 1937
Lowest daily mean	1.3	Oct 25, 1953
Annual seven-day minimum	1.6	Oct 22, 1953
Maximum peak flow	18,300	Feb 3, 1939
Maximum peak stage (ft)	^a 18.66	May 8, 9, 1961
Instantaneous low flow	1.0	Oct 27, 1953
10 percent duration	1,570	
50 percent duration	350	
90 percent duration	43	
Climatic Years 1930 - 2002 (Wiley, 2006)		
1 day 10 yr low flow	3.33	
7 day 10 yr low flow	3.95	
30 day 5 yr low flow	13.5	
1 day 3 yr bio-based low flow	3.95	
4 day 3 yr bio-based low flow	4.49	
10 percent duration	1,610	
50 percent duration	355	
90 percent duration	41.5	
EPA harmonic mean	81.9	

^a Backwater from Sutton Reservoir.

03195100 RIGHT FORK HOLLY RIVER AT GUARDIAN, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°38'07", long 80°27'58" referenced to North American Datum of 1927, Webster County, WV, Hydrologic Unit 05050007, on right bank at Guardian, 50 ft upstream from Bear Run, and at mile 8.1.

DRAINAGE AREA.--51.9 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1974 to September 1978 (daily discharge and peaks), October 1978 to September 1982 (daily mean gage height and annual maxima), October 1985 to September 1987 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,077.42 ft above NAVD 88 (VERTCON conversion of 1,078.00 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1974 - 1987, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	59.6	142	134	129	157	166	145	92.7	65.2	50.3	22.8	21.1
Max	218	337	207	184	257	264	292	192	206	110	51.1	65.3
(WY)	(1977)	(1986)	(1975)	(1975)	(1986)	(1975)	(1987)	(1975)	(1974)	(1986)	(1978)	(1974)
Min	7.42	50.5	94.3	28.3	27.1	63.5	78.5	41.0	13.5	2.47	3.14	10.6
(WY)	(1986)	(1976)	(1977)	(1977)	(1978)	(1987)	(1976)	(1987)	(1976)	(1987)	(1987)	(1977)

DISCHARGE SUMMARY STATISTICS

Water Years 1974 - 1987	
Annual mean	94.6
Highest annual mean	126 1975
Lowest annual mean	74.0 1976
Highest daily mean	2,260 Jun 2, 1974
Lowest daily mean	0.03 Aug 17, 1987
Annual seven-day minimum	0.10 Aug 3, 1987
Maximum peak flow	^a 6,400 Jul 16, 1979 (14.50 ft stage)
Instantaneous low flow	0.01 Aug 17, 1987
Annual runoff (cfsm)	1.82
Annual runoff (inches)	24.76
10 percent duration	228
50 percent duration	41
90 percent duration	5.5

^a From rating curve extended above 2,600 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: February to November 1974.

TURBIDITY: January 1974 to March 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 26.0°C, July 18, 1974; minimum, 0.5°C, Feb. 26, 27, 1974.

TURBIDITY: Maximum, 550 JTU, Aug. 17, 1974; minimum, 1 JTU on many days during 1974.

03195250 LEFT FORK HOLLY RIVER NEAR REPLETE, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°41'19", long 80°25'57" referenced to North American Datum of 1927, Webster County, WV, Hydrologic Unit 05050007, on left bank at Poling, 100 ft downstream from Potts Run, 1.8 mi southeast of Replete, and at mile 12.3.

DRAINAGE AREA.--46.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1974 to September 1978 (daily discharge and peaks), October 1978 to September 1982 (daily mean gage height and annual maxima), October 1985 to September 1987 (daily discharge and peaks), October 1987 to September 1997 (peaks provided by the U.S. Army Corps Of Engineers and published in WDR WV-98-1).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-data recorder. Elevation of gage is approximately 1,189.42 ft above NAVD 88 (VERTCON conversion of 1,190 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Maximum discharge, 6,820 ft³/s, July 31, 1996, gage height, 14.58 ft; maximum gage height, 16.48 ft, July 27, 1992, discharge, 6,680 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1974 - 1987, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	72.6	173	158	146	192	192	164	109	61.1	56.7	31.0	30.1
Max	230	428	233	205	340	315	321	243	170	141	63.9	108
(WY)	(1977)	(1986)	(1975)	(1975)	(1986)	(1975)	(1987)	(1975)	(1974)	(1986)	(1978)	(1974)
Min	9.10	64.3	106	30.6	33.1	95.9	84.7	49.3	12.0	3.77	5.50	12.0
(WY)	(1986)	(1976)	(1977)	(1977)	(1978)	(1987)	(1976)	(1987)	(1987)	(1987)	(1987)	(1978)

DISCHARGE SUMMARY STATISTICS

Water Years 1974 - 1987

Annual mean	112	
Highest annual mean	145	1975
Lowest annual mean	84.0	1976
Highest daily mean	2,040	Oct 9, 1976
Lowest daily mean	0.03	Aug 17, 1987
Annual seven-day minimum	0.68	Aug 1, 1987
Maximum peak flow	3,480	Nov 4, 1985 (11.98 ft stage)
Instantaneous low flow	0.01	Aug 17, 1987
Annual runoff (cfsm)	2.41	
Annual runoff (inches)	32.81	
10 percent duration	279	
50 percent duration	53	
90 percent duration	6.8	

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: February to November 1974.

TURBIDITY: March 1974 to March 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 26.0°C, July 8, 1974; minimum, freezing point Feb. 26, 27, 1974.

TURBIDITY: 650 JTU, Dec. 8, 1974; minimum, 1 JTU on several days during 1974.

03195500 ELK RIVER AT SUTTON, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°39'47", long 80°42'35" referenced to North American Datum of 1927, Braxton County, WV, Hydrologic Unit 05050007, on left bank of Elk River, 150 ft upstream from highway bridge across Elk River on U. S. Route 19, in the town of Sutton, 0.5 mi upstream from Granny Creek, 2.5 mi downstream from Wolf Creek, and 0.9 mi downstream from Sutton Dam, and at mile 102.1.

DRAINAGE AREA.--542 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1938 to February 1939 (monthly discharge published in WSP 1305), March 1939 to September 1960 (daily discharge and peaks), October 1960 to September 1992 (daily discharge and annual maxima), October 1992 to September 1993 (daily mean gage height and annual maxima), October 1994 to September 2000 (annual maxima), October 2000 to September 2001 (annual maximum gage height), October 2001 to September 2002 (annual maxima), October 2002 to September 2008 (annual maximum gage height).

REVISED RECORDS.--WSP 1305: 1942(M), 1948-50(M). WDR WV82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 799.39 ft above NAVD 88 (VERTCON conversion of 800.00 ft above NGVD 29). Prior to Apr. 5, 1940, nonrecording gage. Prior to Oct. 1, 1960, at site 150 ft downstream at datum 8.03 ft higher.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow regulated since October 1960 by Sutton Dam.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--20 years (water years 1939-58), 1,107 ft³/s.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Maximum discharge, 34,200 ft³/s, Jan. 29, 1957, gage height, 39.30 ft, present datum (37.2 ft at datum then in use), highest since 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 13, 1918, reached a stage of 45.2 ft, present datum (37.2 ft at datum then in use), from floodmarks, discharge, 49,000 ft³/s, from rating curve extended above 28,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1959 - 1992, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	810	1,325	1,660	1,557	1,746	2,204	1,230	1,263	759	561	550	448
Max	2,887	3,123	3,653	3,168	3,087	4,484	2,642	3,665	2,435	1,735	1,933	1,646
(WY)	(1977)	(1986)	(1973)	(1979)	(1986)	(1963)	(1987)	(1989)	(1974)	(1992)	(1989)	(1971)
Min	108	440	220	372	902	1,042	105	99.7	63.1	90.0	82.4	38.9
(WY)	(1959)	(1959)	(1966)	(1977)	(1968)	(1988)	(1976)	(1963)	(1991)	(1991)	(1965)	(1959)

DISCHARGE SUMMARY STATISTICS

Water Years 1959 - 1992	
Annual mean	1,174
Highest annual mean	1,619 1972
Lowest annual mean	666 1966
Highest daily mean	12,100 Mar 12, 1967
Lowest daily mean	7.1 Sep 24, 1959
Annual seven-day minimum	7.3 Sep 24, 1959
Maximum peak flow	12,500 Mar 12, 1967 (24.51 ft stage)
10 percent duration	2,960
50 percent duration	636
90 percent duration	120
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	3.53
7 day 10 yr low flow	3.99
30 day 5 yr low flow	17.6

1 day 3 yr bio-based low flow	7.77
4 day 3 yr bio-based low flow	8.27
10 percent duration	2,610
50 percent duration	577
90 percent duration	57.0
EPA harmonic mean	90.6

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1985 to March 1987.

WATER TEMPERATURE: March 1960 to September 1983, February 1985 to March 1987.

TURBIDITY: January 1974 to March 1975, February 1985 to March 1987.

SUSPENDED-SEDIMENT RECORDS: February 1985 to March 1987.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 144 microsiemens, June 1, 1986; minimum daily, 46 microsiemens, Feb. 8, 1986.

WATER TEMPERATURE: Maximum daily, 30.0°C, Aug. 12, 14, 15, 1985; minimum daily, 0.0°C many days during winter periods.

TURBIDITY: Maximum daily, 120 NTU, Nov. 8, 1985; minimum daily, 0.5 NTU, Aug. 11, 1985.

SEDIMENT CONCENTRATION: Maximum daily mean, 150 mg/L, Nov. 6, 1985; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOAD: Maximum daily, 2,320 tons, Nov. 8, 1985; minimum daily, 0 ton on many days each year.

03195600 GRANNY CREEK AT SUTTON, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°40'36", long 80°42'47" referenced to North American Datum of 1927, Braxton County, WV, Hydrologic Unit 05050007, on right bank, 10 ft upstream of a culvert under U.S. Route 19, 1.0 mi northwest of Sutton, WV, and at mile 0.70.

DRAINAGE AREA.--6.98 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1967 (annual maxima), June 1967 to September 1977 (daily discharge and peaks), October 1994 to September 2006 (annual maxima).

REVISED RECORDS.--WDR WV-2006-1: 2001-05(M), Basin Characteristics Report: Drainage area.

GAGE.—Crest-stage gage. Elevation of gage is approximately 839.40 ft above NAVD 88 (VERTCON conversion of 840 ft above NGVD 29, from topographic map). Prior to Sept. 30, 1977, water-stage recorder and concrete dam and culvert control at same site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Maximum discharge, 1,990 ft³/s, May 28, 2004, gage height, 17.71 ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1967 - 1977

Annual mean	9.61
Highest daily mean	281 Dec 30, 1969
Lowest daily mean	0.03 Sep 27, 1967
Annual seven-day minimum	0.04 Jul 13, 1968
Maximum peak flow	1,510 Jun 16, 1975 (14.03 ft stage)
Instantaneous low flow	0.02 Oct 1, 2, 1968
10 percent duration	22
50 percent duration	3.5
90 percent duration	0.36

03196000 ELK RIVER AT GASSAWAY, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°40'00", long 80°46'50" referenced to North American Datum of 1927, Braxton County, WV, Hydrologic Unit 05050007, on downstream side of highway bridge near left end, 300 ft upstream from Little Otter Creek, at Gassaway.

DRAINAGE AREA.--578 mi², (includes that of Little Otter Creek).

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July to September 1908 (daily discharge), October 1909 to September 1916 (daily discharge and peaks).

GAGE.--Chain gage. Datum of gage is 796.31 ft above COE 12. Prior to June 17, 1913, chain gage at railroad bridge 300 ft upstream at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Mar. 13 and May 25, 1918, July 16, 1919, and Jan. 23, 1920 reached stages of 44.00, 24.80, 23.90, and 17.80 ft, respectively.

DISCHARGE SUMMARY STATISTICS		
Water Years 1908 - 1916		
Annual mean	1,180	
Highest daily mean	23,800	Jan 30, 1911
Lowest daily mean	11	Aug 23, 1911
Annual seven-day minimum	12	Aug 22, 1911
Maximum peak flow	28,700	Jan 30, 1911 (30.40 ft stage)
Instantaneous low flow	11	Aug 24, 25, 1911
10 percent duration	2,720	
50 percent duration	685	
90 percent duration	70	

03196100 BIRCH RIVER NEAR BIRCH RIVER, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°29'40", long 80°44'05" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050007, at highway bridge, 100 ft downstream from Anthony Creek, and 1.2 mi upstream from Birch River.

DRAINAGE AREA.--48.3 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1945 to December 1948 (daily discharge).

GAGE.--Staff gage. Datum of gage is approximately 1,149.45 ft above NAVD 88 (VERTCON conversion of 1,150 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1945 - 1949		
Highest daily mean	1,520	Feb 14, 1948
Lowest daily mean	0.08	Sep 10, 1946 ^a
Annual seven-day minimum	0.12	Sep 4, 1946
Maximum peak flow	2,770	Jul 23, 1948 (6.56 ft stage)
Instantaneous low flow	0.08	Sep 10, 1946 ^a
10 percent duration	177	
50 percent duration	32	
90 percent duration	2.1	

^a Computed on basis of records for nearby streams.

03196500 BIRCH RIVER AT HEROLD, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°34'29", long 80°48'04" referenced to North American Datum of 1927, Braxton County, WV, Hydrologic Unit 05050007, on left bank at downstream side of County Route 40 highway bridge, 100 ft downstream from Long Run, 0.8 mi northeast of Herold, and at mile 11.5.

DRAINAGE AREA.--124 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1929 to December 1931 (daily mean gage height); occasional low-flow measurements water years 1930-31, 1939, 1941, 1960-61, 1964, 1967; January 1974 to September 1975 (daily discharge and peaks), October 1978 to September 1984 (daily discharge and annual maxima).

REVISED RECORDS.—WDR WV-81-1: 1980.

GAGE.--Water-stage recorder. Datum of gage is 933.88 ft above NAVD 88 (VERTCON conversion of 934.46 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1974 - 1984		
Highest daily mean	5,630	Dec 9, 1978
Lowest daily mean	1.8	Sep 20, 1983
Annual seven-day minimum	2.5	Sep 6, 1983
Maximum peak flow	10,000	Jul 10, 1980 (13.55 ft stage)
10 percent duration	584	
50 percent duration	123	
90 percent duration	13	

03196600 ELK RIVER NEAR FRAMETOWN, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°35'32", long 80°53'05" referenced to North American Datum of 1927, Braxton County, WV, Hydrologic Unit 05050007, on right bank opposite mouth of Birch River, at village of Glendon, 2.2 mi upstream from Strange Creek, 3.2 mi southwest of Frametown, and at mile 82.6.

DRAINAGE AREA.--751 mi², includes that of Birch River.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1958 to September 1981 (daily discharge and annual maxima), October 1981 to September 1993 (daily mean gage height and annual maxima), October 1993 to September 2000 (annual maxima), October 2000 to September 2001 (annual maximum gage height), October 2001 to September 2002 (annual maxima), October 2002 to September 2008 (annual maximum gage height).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 774.82 ft above NAVD 88 (775.42 ft above NGVD 29). Prior to Mar. 25, 1959, nonrecording gage at same site and datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow regulated since October 1960 by Sutton Dam.

DISCHARGE SUMMARY STATISTICS

Water Years 1959 - 1981		
Annual mean	1,572	
Highest daily mean	15,000	Mar 15, 1967
Lowest daily mean	9.5	Sep 28, 1959
Annual seven-day minimum	11	Sep 23, 1959
Maximum peak flow	30,300	Jul 31, 1996 (20.39 ft stage)
Instantaneous low flow	9.0	Sep 28, 29, 1959
10 percent duration	3,910	
50 percent duration	837	
90 percent duration	161	

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1960 to September 1966, June to September 1967, October 1971 to September 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 28.0°C, June 16-19, 1967, Aug. 9-12, 1973; minimum, freezing point on many days during winter months most years.

03196750 BUFFALO CREEK AT CLAY, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°27'16", long 81°04'01" referenced to North American Datum of 1927, Clay County, WV, Hydrologic Unit 05050007, on right bank at downstream side of highway bridge, 1.0 mi southeast of Clay, and at mile 0.7.

DRAINAGE AREA.--114 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1974 to September 1975 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 709.40 ft above NAVD 88 (VERTCON conversion of 710 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1974 - 1975		
Highest daily mean	4,000	Jun 2, 1974
Lowest daily mean	7.0	Aug 2, 3, 1975
Annual seven-day minimum	8.5	Jul 28, 1975
Maximum peak flow	^a 7,110	Jun 2, 1974 (10.09 ft stage)
10 percent duration	550	
50 percent duration	117	
90 percent duration	14	

^a From rating curve extended above 800 ft³/s.

03196800 ELK RIVER AT CLAY, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°27'38", long 81°05'16" referenced to North American Datum of 1927, Clay County, WV, Hydrologic Unit 05050007, on upstream side, right bank of County Route 28 bridge in the town of Clay, 1.0 mi downstream from Buffalo Creek, 2.2 mi downstream from Lower Two Run Creek, and at mile 52.4.

DRAINAGE AREA.--992 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1915 to September 1958 (annual maximum gage height, furnished by the National Weather Service), October 1958 to September 1978 (daily discharge and annual maxima), October 1978 to September 1993 (daily mean gage height and annual maxima), October 1993 to September 1994 (annual maximum gage height), October 1994 to September 1998 (annual maxima), October 2002 to September 2008 (annual maximum gage height).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 677.28 ft above NAVD 88 (677.88 ft above NGVD 29). Prior to October 2003 at site 0.1 mi upstream at datum 0.42 ft lower. Prior to Mar. 27, 1959, nonrecording gage.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow regulated since October 1960 by Sutton Dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 14, 1918, reached a stage of 32.4 ft, from reports of National Weather Service.

DISCHARGE SUMMARY STATISTICS		
Water Years 1959 - 1978		
Annual mean	1,926	(unadjusted)
Highest daily mean	32,100	Mar 15, 1967
Lowest daily mean	1.8	Sep 22, 1959
Annual seven-day minimum	8.1	Sep 22, 1959
Maximum peak flow	48,000	Mar 15, 1967 (22.80 ft stage)
Instantaneous low flow	1.5	Sep 22, 1959
10 percent duration	4,900	
50 percent duration	958	
90 percent duration	177	

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1960 to August 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 31°C, July 23, 1964; minimum, freezing point on several days in February 1961, January to March 1967, January to February 1968, and January 1970.

03197000 ELK RIVER AT QUEEN SHOALS, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°28'15", long 81°17'03" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050007, on right bank 50 ft upstream from Queen Shoals Creek, 100 ft downstream from highway bridge at Queen Shoals, 4.0 mi upstream from Big Sandy Creek, and at mile 26.2.

DRAINAGE AREA.--1,145 mi², includes that of Queen Shoals Creek.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October to November 1928 (monthly discharge published in WSP 1305), December 1928 to September 1960 (daily discharge and peaks), October 1960 to September 2008 (daily discharge and annual maxima).

REVISED RECORDS.--WSP 783: Drainage area. WSP 1335: 1929-32, 1935(M), 1936, 1939, 1943(M). WDR WV-2004-1: 1981-2003(P). WDR-US-2008: 1981-2003.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 603.50 ft above NAVD 88 (VERTCON conversion of 604.09 ft above NGVD 29). Prior to June 19, 1932, nonrecording gage. June 19, 1932, to Sept. 30, 1946, water-stage recorder, at bridge 100 ft upstream at same datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow regulated since October 1960 by Sutton Dam. Unregulated statistics of monthly mean data and summary statistics for water years 1929-1959 are also published.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1929 - 1958, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	557	1,093	2,233	3,130	3,578	4,210	2,995	2,149	1,061	1,279	980	408
Max	3,510	3,488	5,245	6,482	7,715	7,339	5,307	4,352	3,111	6,268	4,453	2,398
(WY)	(1938)	(1930)	(1943)	(1937)	(1939)	(1936)	(1958)	(1958)	(1940)	(1932)	(1958)	(1950)
Min	3.46	7.50	204	402	759	2,154	799	384	113	17.1	13.1	7.21
(WY)	(1931)	(1931)	(1931)	(1940)	(1934)	(1937)	(1942)	(1930)	(1936)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1929 - 1958		
Annual mean	1,967	
Highest annual mean	2,821	1950
Lowest annual mean	1,214	1941
Highest daily mean	58,100	Jul 5, 1932
Lowest daily mean	0.30	Nov 3, 4, 1953
Annual seven-day minimum	0.86	Oct 30, 1953
Maximum peak flow	^a 72,000	Jul 5, 1932 (29.20 ft stage)
Instantaneous low flow	0.30	Nov 4, 5, 1953
10 percent duration	4,650	
50 percent duration	955	
90 percent duration	90	

^a From rating curve extended above 40,000 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1959 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,000	2,057	2,795	2,968	3,448	4,064	2,857	2,548	1,330	917	864	659
Max (WY)	5,017 (1977)	6,700 (2004)	7,402 (1973)	6,259 (1979)	6,776 (1994)	9,051 (1967)	5,606 (1973)	6,151 (1967)	4,555 (2003)	2,667 (1992)	3,487 (1972)	3,072 (1971)
Min (WY)	142 (1959)	352 (2002)	244 (1966)	594 (1977)	955 (2002)	1,279 (2006)	562 (1963)	409 (1964)	132 (1965)	120 (1964)	83.7 (1965)	111 (1959)

DISCHARGE SUMMARY STATISTICS

Water Years 1959 - 2008		
Annual mean	2,120	
Highest annual mean	3,088	1994
Lowest annual mean	1,063	1966
Highest daily mean	35,300	Mar 15, 1967
Lowest daily mean	9.0	Sep 27, 1959
Annual seven-day minimum	12	Sep 24, 1959
Maximum peak flow	^a 45,100	Mar 2, 1997
Maximum peak stage		(25.36 ft stage)
10 percent duration	5,550	
50 percent duration	1,150	
90 percent duration	225	
Climatic Years 1930 - 2002 (Wiley, 2006)		
1 day 10 yr low flow	5.45	
7 day 10 yr low flow	7.65	
30 day 5 yr low flow	29.9	
1 day 3 yr bio-based low flow	7.97	
4 day 3 yr bio-based low flow	11.9	
10 percent duration	4,820	
50 percent duration	985	
90 percent duration	103	
EPA harmonic mean	149	

^a From rating curve extended above 40,000 ft³/s, highest since 1918.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1985 to September 1986.

WATER TEMPERATURE: November 1960 to April 1975, February 1985 to September 1986.

TURBIDITY: February 1985 to September 1986.

SUSPENDED-SEDIMENT RECORDS: February 1985 to September 1986.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 214 microsiemens, Sept. 2, 1986; minimum daily, 51 microsiemens, Dec. 6, 1985.

WATER TEMPERATURE: Maximum daily, 29.0°C on several days in 1963, 1964, 1968, 1986; minimum daily, 0.0°C on many days during winter periods.

TURBIDITY: Maximum daily, 160 NTU, Nov. 8, 1985; minimum daily, 0.7 NTU, May 2, June 26, Sept. 24, 28, 29, 1985.

SEDIMENT CONCENTRATION: Maximum daily mean, 368 mg/L, Feb. 18, 1986; minimum daily mean, 0 mg/L on several days each year.

SEDIMENT LOAD: Maximum daily, 15,100 tons, Feb. 18, 1986; minimum daily, 0 ton on several days each year.

03197150 ASHLEYCAMP RUN NEAR LEFTHAND, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°37'34", long 81°14'02" referenced to North American Datum of 1927, Roane County, WV, Hydrologic Unit 05050007, on right upstream wingwall of culvert on State Route 36, 1.25 mi east of Lefthand.

DRAINAGE AREA.--2.01 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1977, and October 1998 to September 2006 (annual maxima).

GAGE.--Crest-stage gage. Elevation of gage is approximately 779.44 ft above NAVD 88 (VERTCON conversion of 780 ft above NGVD 29, from topographic map).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 466 ft³/s, Sept. 4, 2003, gage height 9.13 ft.

03197440 LEFT HAND CREEK NEAR CLENDENIN, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°32'18", long 81°20'43" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050007, on right bank 0.4 mi downstream from Gabes Creek, 0.7 mi upstream from Lick Branch, 3.4 mi north of Clendenin, and at mile 1.3.

DRAINAGE AREA.--27.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1974 to February 1975 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 619.42 ft above NAVD 88 (VERTCON conversion of 620 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1974 - 1975

Highest daily mean	202	May 12, 1974
Lowest daily mean	0.91	Aug 2, 1974
Annual seven-day minimum	1.1	Oct 6, 1974
Maximum peak flow	295	Jun 1, 1974
Maximum peak stage (ft)	15.80	Nov 20, 1974
Instantaneous low flow	0.91	Aug 2, 1974 ^a

^a Also Aug. 3, 7, 8, 27, 1974.

03197500 ELK R AT CLENDENIN, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°29'23", long 81°21'00" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050007, on upstream side of highway bridge at Clendenin, just upstream of Big Sandy Creek.

DRAINAGE AREA--1,290 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1908 to September 1916 (daily discharge and peaks, monthly and yearly mean discharge published in WSP 1305).

GAGE.--Chain gage. Datum of gage is 588.70 ft above COE 12.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1888 reached a stage of 32 ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1908 - 1916

Annual mean	2,165	
Highest daily mean	34,900	Jan 30, 1911
Lowest daily mean	14	Aug 17, 1911
Annual seven-day minimum	18	Aug 23, 1911
Maximum peak flow	40,400	Jan 30, 1911
	(24.00 ft stage)	
Instantaneous low flow	14	Aug 17, 1911
10 percent duration	5,350	
50 percent duration	1,090	
90 percent duration	120	

03197680 ELK RIVER AT BLUE CREEK, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°26'57", long 81°27'22" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050007, on right bank 20 ft downstream from highway bridge on Blue Creek, 0.1 mi upstream from Blue Creek, 1.7 mi east of Elkview, and at mile 14.4.

DRAINAGE AREA--1,336 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1985 to September 1986 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 577.60 ft above NAVD 88 (VERTCON conversion of 578.22 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow regulated since October 1960 by Sutton Dam.

DISCHARGE SUMMARY STATISTICS		
Water Years 1985 - 1986		
Highest daily mean	23,200	Nov 29, 1985
Lowest daily mean	135	Sep 5, 1985
Annual seven-day minimum	143	Aug 31, 1985
Maximum peak flow	^a 26,700	Nov 29, 1985 (24.46 ft stage)
Instantaneous low flow	133	Sep 5, 6 1985
10 percent duration	7,580	
50 percent duration	812	
90 percent duration	286	

^a From rating curve extended above 23,000 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1985 to September 1986.

WATER TEMPERATURE: February 1985 to September 1986.

TURBIDITY: February 1985 to September 1986.

SUSPENDED-SEDIMENT RECORDS: February 1985 to September 1986.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 192 microsiemens, Feb. 17, 1986; minimum daily, 51 microsiemens, May 25, 1985.

WATER TEMPERATURE: Maximum daily, 29.0°C, July 17, 18, 1986; minimum daily, 0.0°C, several days in January 1986.

TURBIDITY: Maximum daily, 200 NTU, Feb. 17, 1986; minimum daily, 0.3 NTU, Aug. 18, 20, 1985.

SEDIMENT CONCENTRATION: Maximum daily mean, 540 mg/L, Feb. 18, 1986; minimum daily mean, 0 mg/L on many days in 1986.

SEDIMENT LOAD: Maximum daily, 28,600 tons, Feb. 18, 1986; minimum daily, 0 ton on many days in 1986.

03197790 LITTLE SANDY CREEK NEAR ELKVIEW, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°27'21", long 81°30'01" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050007, on left bank 20 ft downstream from private bridge at Wills, 0.2 mi downstream from Wills Creek, 1.3 mi west of Elkview, and at mile 6.3.

DRAINAGE AREA.--43.6 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1985 to September 1987 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 604.38 ft above NAVD 88 (VERTCON conversion of 605 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1985 - 1987, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6.17	139	87.2	67.4	139	52.5	64.7	28.9	16.6	13.6	4.74	6.07
Max	6.95	175	97.7	87.4	190	75.2	136	64.3	31.2	20.6	5.96	10.1
(WY)	(1986)	(1986)	(1987)	(1987)	(1986)	(1986)	(1987)	(1985)	(1985)	(1985)	(1985)	(1987)
Min	5.40	102	76.6	47.4	87.4	29.8	13.2	8.61	5.27	4.24	2.91	0.39
(WY)	(1987)	(1987)	(1986)	(1986)	(1987)	(1987)	(1986)	(1986)	(1986)	(1987)	(1986)	(1985)

DISCHARGE SUMMARY STATISTICS

Water Years 1985 - 1987

Annual mean	49.9	
Highest annual mean	50.9	1986
Lowest annual mean	48.9	1987
Highest daily mean	998	Nov 28, 1985
Lowest daily mean	0.00	(a)
Annual seven-day minimum	0.00	Jul 31, 1986
Maximum peak flow	1,940	Feb 17, 1986 (14.54 ft stage)
Instantaneous low flow	0.00	(b)
10 percent duration	111	
50 percent duration	14	
90 percent duration	0.90	

^a No flow July 31 to Aug. 7, 1986, and Aug. 21, 1987.

^b No flow part or all of July 31 to Aug. 7, 1986, and Aug. 20-22, 1987.

03197900 ELK TWOMILE CREEK TRIBUTARY NEAR CHARLESTON, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°21'13", long 81°31'22" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050007, at culvert on Elk Twomile Road, 5 miles northeast of Charleston, and at mile 0.1.

DRAINAGE AREA.--0.49 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1963 to September 1975 (annual maxima). Water years 1964, 1969, and 1971 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 210 ft³/s, July 21, 1973, gage height 8.94 ft.

03197910 UNNAMED TRIBUTARY TO ELK TWOMILE CREEK NEAR CHARLESTON, WV

Kanawha Basin
Elk Subbasin

LOCATION.--Lat 38°21'39.2", long 81°30'46.3" referenced to North American Datum of 1983, Kanawha County, WV, Hydrologic Unit 05050007, on top and towards the center of Elk Twomile site #14 dam.

DRAINAGE AREA.--0.65 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 2004 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 831.06 ft above NAVD 88 (VERTCON conversion of 831.67 ft above NGVD 29).

REMARKS.--Dam name: Elk Twomile No. 14

Surface area: 3.4 acres

Normal Pool = 40.13 ft (Normal Storage = 39.8 acre-ft)

Top of Riser = 50.00 ft

Emergency Spillway = 57.73 ft

Top of Dam = 66.03 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 48.89 ft, Apr. 15, 2007; minimum gage height, 39.30 ft, Oct. 6, 2005.

03198000 KANAWHA RIVER AT CHARLESTON, WV

Kanawha Basin
Lower Kanawha Subbasin

LOCATION.--Lat 38°22'17", long 81°42'08" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050008, on left bank at old lock 6, 1.0 mi upstream from Davis Creek, 1.5 mi downstream from Twomile Creek, 2.0 mi downstream from Patrick Street Bridge at Charleston, 3.5 mi downstream from Elk River, and at mile 54.5.

Auxiliary gage at lat 38°21'40", long 81°39'45", 0.3 mi upstream from Patrick Street Bridge at Charleston, 1.2 mi downstream from Elk River, 2.3 mile upstream from base gage at old lock 6, and at mile 56.8.

DRAINAGE AREA.--10,448 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1939 to September 2008 (daily discharge and annual maxima, monthly discharge only September 1939 to February 1940 published in WSP 1305).

REVISED RECORDS.--WSP 1335: 1943.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 547.34 ft above NAVD 88 (VERTCON conversion of 548.00 ft above NGVD 29, levels by U.S. Army Corps of Engineers). Auxiliary water-stage recorder 2.3 mi upstream from base gage at datum 546.34 ft above NAVD 88 (VERTCON conversion of 547.00 ft above NGVD 29). Prior to Oct. 1, 1955, auxiliary gages at different sites and datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Records good above 30,000 ft³/s, fair 10,000 to 30,000 ft³/s, and poor less than 10,000 ft³/s. The rating lacks sensitivity at flows less than 10,000 ft³/s and records for flows less than 10,000 ft³/s are estimated based on stations 03193000 Kanawha River at Kanawha Falls, 03197000 Elk River at Queen Shoals, and 03200500 Coal River at Tornado. Flow regulated since May 1939 by increasing number of reservoirs upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 29, 1861, reached a stage of about 54.3 ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1941 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	7,008	11,660	16,840	20,820	25,110	29,810	22,620	18,130	10,850	7,756	6,732	5,646
Max	30,780	45,580	40,920	46,440	52,020	62,900	59,000	38,550	33,350	19,030	19,030	20,820
(WY)	(1977)	(2004)	(1973)	(1996)	(1994)	(1963)	(1987)	(1989)	(2003)	(2001)	(1958)	(2004)
Min	1,465	1,703	2,461	4,226	7,122	10,680	6,553	4,894	2,745	2,394	2,080	1,553
(WY)	(1954)	(1954)	(1966)	(1966)	(2002)	(1988)	(1986)	(1941)	(1999)	(1966)	(1944)	(1953)

DISCHARGE SUMMARY STATISTICS

	Water Years 1941 - 2008	
Annual mean	15,200	
Highest annual mean	22,790	2004
Lowest annual mean	8,649	1988
Highest daily mean	160,000	Mar 7, 1967
Lowest daily mean	1,100	Jul 30, 1966
Annual seven-day minimum	1,250	Sep 26, 1953
Maximum peak flow	216,000	Aug 15, 1940
Maximum peak stage (ft)	39.72	Mar 7, 1955
Instantaneous low flow	(a)	Oct 1-5, 1953 ^b
10 percent duration	33,600	
50 percent duration	9,610	
90 percent duration	3,100	

^a Less than 1,030 ft³/s.

^b May have been lower at times, but not determined.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: March 1953 to August 1970, October 1971 to September 1985.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 35.0°C, Aug. 25, 26, 1959; minimum, 0.0°C, Jan. 22, 23, 1984, Jan. 22-28, 1985.

03198020 TRACE FORK AT RUTH, WV

Kanawha Basin
Lower Kanawha Subbasin

LOCATION.--Lat 38°18'26", long 81°43'38" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050008, on right bank 500 ft upstream from Dryden Hollow at Ruth.

DRAINAGE AREA.--2.73 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1980 to September 1984 (daily discharge).

REVISED RECORDS.--WRD WV-83-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is approximately 699.36 ft above NAVD 88 (VERTCON conversion of 700 ft above NGVD 29, from topographic map). July 1980 to Oct. 27, 1983, at site 300 ft downstream at different datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1980 - 1984		
Highest daily mean	78	May 30, 1982
Lowest daily mean	0.01	(a)
Annual seven-day minimum	0.01	Sep 14, 1983
Maximum peak flow	260	May 30, 1982
	^b 10.70 ft stage)	
Instantaneous low flow	0.01	(a)
10 percent duration	6.4	
50 percent duration	1.0	
90 percent duration	0.04	

^a Several days in September 1983, June 20-23, July 25, Aug. 3, and Sept. 21, 22, 1984.

^b Site and datum then in use.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1980 to September 1983.

WATER TEMPERATURE: July 1980 to September 1984.

SUSPENDED-SEDIMENT RECORDS: July 1980 to September 1984.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 460 microsiemens, July 8, 1980; minimum daily, 71 microsiemens, Mar.12, 1982.

WATER TEMPERATURE: Maximum daily observed, 26.0°C, July 3, 1983; minimum daily, 0.0°C several days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,450 mg/L, Apr. 22, 1984; minimum daily mean, 0 mg/L several days each year.

SEDIMENT LOAD: Maximum daily, 364 tons, Apr. 22, 1984; minimum daily, 0 ton many days each year.

03198022 TRACE FORK DOWNSTREAM OF DRYDEN HOLLOW AT RUTH, WV

Kanawha Basin
Lower Kanawha Subbasin

LOCATION.--Lat 38°18'55", long 81°43'42" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050008, on right upstream wingwall of private bridge, 100 ft west of intersection of State Highways 214 and 16/1, and 0.4 mi north of Ruth.

DRAINAGE AREA.--4.72 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1980 to September 1984 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 679.35 ft above NAVD 88 (VERTCON conversion of 680 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1980 - 1984	
Highest daily mean	122 May 30, 1982
Lowest daily mean	0.05 Oct 1, 1983 ^a
Annual seven-day minimum	0.06 Oct 1, 1983
Maximum peak flow	430 Jul 10, 1980 (9.31 ft stage)
Instantaneous low flow	0.00 (b)
10 percent duration	12
50 percent duration	1.9
90 percent duration	0.24

^a Also Oct. 2-4, 6-10, 1983.

^b No flow part of each day Oct. 28, 31, 1982, July 16, 17, 1983.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1980 to September 1983.

WATER TEMPERATURE: July 1980 to September 1984.

SUSPENDED-SEDIMENT RECORDS: July 1980 to September 1984.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily observed, 982 microsiemens, July 23, 1982; minimum daily observed, 47 microsiemens, Dec. 16, 1980.

WATER TEMPERATURE: Maximum daily recorded, 31.0°C, Aug. 26, 1984; minimum daily recorded, 0.0°C several days during winter months.

SEDIMENT CONCENTRATION: Maximum daily mean, 2,500 mg/L, July 10, 1980; minimum daily mean, 0 mg/L several days each year.

SEDIMENT LOAD: Maximum daily, 621 tons, July 10, 1980; minimum daily, 0 ton many days each year.

03198350 CLEAR FORK AT WHITESVILLE, WV

Kanawha Basin
Coal Subbasin

LOCATION.--Lat 37°57'58", long 81°31'28" referenced to North American Datum of 1927, Raleigh County, WV, Hydrologic Unit 05050009, at Leevale, on left bank, at Secondary Route 1-21 highway bridge, 0.7 mi southeast of Whitesville, and 0.6 mi upstream from mouth.

DRAINAGE AREA.--62.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1996 to September 2008 (daily discharge and peaks).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 818.33 ft above NAVD 88 (VERTCON conversion of 818.98 ft above NGVD 29).

Prior to July 24, 2002, at site 250 ft upstream at same datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1997 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	25.6	65.6	69.9	94.6	137	143	167	109	77.2	54.6	30.0	28.4
Max	67.8	296	162	161	334	221	299	200	242	288	79.0	91.5
(WY)	(2005)	(2004)	(2004)	(2004)	(2003)	(1997)	(2004)	(2001)	(2003)	(2001)	(2001)	(2003)
Min	7.30	8.10	18.1	27.2	36.1	69.8	55.0	30.1	8.53	6.88	7.76	4.42
(WY)	(1999)	(2002)	(2002)	(2000)	(2002)	(2006)	(1999)	(1999)	(1999)	(1999)	(1999)	(1999)

DISCHARGE SUMMARY STATISTICS		
Water Years 1997 - 2008		
Annual mean	83.1	
Highest annual mean	141	2004
Lowest annual mean	47.9	1999
Highest daily mean	2,760	Jul 8, 2001
Lowest daily mean	2.5	Sep 26, 27, 1999
Annual seven-day minimum	2.8	Sep 21, 1999
Maximum peak flow	^a 12,000	Jul 8, 2001 (^b 28.47 ft stage)
Instantaneous low flow	2.1	Sep 27, 1999
Annual runoff (cfsm)	1.32	
Annual runoff (inches)	17.98	
10 percent duration	182	
50 percent duration	46	
90 percent duration	8.3	

^a From rating curve extended above 3,300 ft³/s based on slope-area measurement of flow made July 10, 2001, highest since 1977.

^b From floodmarks.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1996 to September 1998.

pH: December 1996 to September 1998.

WATER TEMPERATURE: December 1996 to September 1998.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 853 microsiemens, Sept. 19, 1998; minimum recorded, 126 microsiemens, June 2, 1997.

pH: Maximum recorded, 8.7 units, Nov. 29, 1997; minimum recorded, 6.7 units, June 2, 1997.

WATER TEMPERATURE: Maximum recorded, 27.1°C, Aug. 17, 1997; minimum recorded, -0.3°C, Dec. 20-22, 1996, Jan. 12, 1997, Jan. 1, 1998.

03198450 DRAWDY CREEK NEAR PEYTONA, WV

Kanawha Basin

Coal Subbasin

LOCATION.--Lat 38°07'29", long 81°41'33" referenced to North American Datum of 1927, Boone County, WV, Hydrologic Unit 05050009, on right bank 75 ft upstream from the bridge at entrance to Drawdy Cemetery, 1.0 mi southwest of Peytona, and at mile 1.3.

DRAINAGE AREA.--7.75 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1968 (annual maxima), October 1968 to September 1977 (daily discharge and peaks), October 1993 to September 1998 (annual maxima).

REVISED RECORDS.--WDR WV-69-1: 1965-68(M).

GAGE.--Crest-stage gage. Elevation of gage is 769.33 ft above NAVD 88 (VERTCON conversion of 770 ft above NGVD 29, from topographic map). Prior to Oct. 1, 1977, water-stage recorder at same site and datum. Prior to Sept. 21, 1968, water-stage recorder 100 ft downstream at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1969 - 1977

Annual mean	9.74
Highest daily mean	270 Feb 15, 1970
Lowest daily mean	0.02 Aug 5, 1976 ^a
Annual seven-day minimum	0.05 Sep 19, 1976
Maximum peak flow	1,400 Nov 27, 1973 (12.93 ft stage)
Instantaneous low flow	0.02 Aug 5, 1976 ^a
10 percent duration	22
50 percent duration	4.1
90 percent duration	0.60

^a Also Aug. 26, 31, Sept. 1, 24, 25, 1976.

03198500 BIG COAL RIVER AT ASHFORD, WV

Kanawha Basin
Coal Subbasin

LOCATION.--Lat 38°10'47", long 81°42'42" referenced to North American Datum of 1927, Boone County, WV, Hydrologic Unit 05050009, on left bank at downstream side of highway bridge at Ashford, 300 ft upstream from Lick Creek, 1.0 mi downstream from Brush Creek, 1.8 mi upstream from Bull Creek, and at mile 30.2.

DRAINAGE AREA.--391 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1908 to September 1916, and May 1930 to September 2008 (daily discharge and peaks). Published as Coal River at Brushton, June 1908 to September 1916 and as Coal River at Ashford, May 1930 to September 1960.

REVISED RECORDS.--WSP 1305: 1913-14(M). WSP 1335: 1912, 1916(M). WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 621.83 ft above NAVD 88 (622.51 ft above NGVD 29, corrected). Prior to Aug. 9, 1916, nonrecording gage at site 1.0 mi upstream at datum 0.64 ft lower. May 7, 1930, to Feb. 10, 1939, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1908 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	127	266	551	814	995	1,175	925	616	320	236	173	110
Max	1,086	1,994	2,043	2,241	2,294	2,866	2,448	2,169	1,208	1,457	1,570	651
(WY)	(1990)	(2004)	(1943)	(1974)	(2003)	(1955)	(1987)	(1996)	(1981)	(2001)	(1916)	(2003)
Min	1.11	5.94	16.7	29.4	142	366	173	89.2	19.6	6.41	11.9	1.13
(WY)	(1931)	(1931)	(1931)	(1940)	(1941)	(1988)	(1942)	(1941)	(1936)	(1930)	(1957)	(1930)

DISCHARGE SUMMARY STATISTICS		
Water Years 1908 - 2008		
Annual mean	525	
Highest annual mean	872	2004
Lowest annual mean	206	1941
Highest daily mean	20,400	Mar 7, 1967
Lowest daily mean	0.00	Sep 18, 1930 ^a
Annual seven-day minimum	0.00	Oct 6, 1930
Maximum peak flow	^b 35,800	Aug 9, 1916 (^c 36.30 ft stage)
Instantaneous low flow	0.00	Sep 18, 1930
Annual runoff (cfsm)	1.34	
Annual runoff (inches)	18.23	
10 percent duration	1,240	
50 percent duration	233	
90 percent duration	31	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	4.76	
7 day 10 yr low flow	5.91	
30 day 5 yr low flow	15.3	
1 day 3 yr bio-based low flow	3.40	
4 day 3 yr bio-based low flow	4.24	
10 percent duration	1,260	
50 percent duration	231	
90 percent duration	31.8	
EPA harmonic mean	74.4	

^a Also Sept. 19-21, 24, Oct. 6-12, 1930.

^b From rating curve extended above 25,000 ft³/s.

^c Observed. From floodmark, site and datum then in use. The peak stage is 35.66 ft at present site and datum.

03198550 BIG COAL RIVER NEAR ALUM CREEK, WV

Kanawha Basin
Coal Subbasin

LOCATION.--Lat 38°15'00", long 81°47'54" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050009, at Chesapeake & Ohio Railroad bridge at end of Sproul Tunnel, 2.6 mi south of Alum Creek, and at mile 21.0, upstream from Kanawha River.

DRAINAGE AREA.--445 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1974 to June 1982 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is 588.06 ft above NAVD 88 (VERTCON conversion of 588.75 ft above NGVD 29). Prior to Apr. 14, 1976, nonrecording gage at same site. Prior to Jan. 30, 1976, at datum 0.50 ft lower.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1975 - 1982		
Annual mean	704	
Highest daily mean	25,000	Dec 9, 1978
Lowest daily mean	31	Oct 11, 1978 ^a
Annual seven-day minimum	33	Oct 9, 1978
Maximum peak flow	^b 28,600	Jan 26, 1978 (^c 32.24 ft stage)
10 percent duration	1,510	
50 percent duration	350	
90 percent duration	70	

^a Also Nov. 3, 1978, Sept. 14, 1981.

^b From rating curve extended above 6,700 ft³/s.

^c Observed.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to June 1982.

WATER TEMPERATURE: October 1974 to September 1980.

SUSPENDED SEDIMENT RECORDS: October 1974 to June 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 806 microsiemens, Oct. 3, 1975; minimum daily, 70 microsiemens, Jan. 13, 1979.

WATER TEMPERATURE: Maximum daily, 30.0°C several days during summer periods 1975, 1977, 1978; minimum daily, 0.0°C many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 2,050 mg/L, Jan. 26, 1978; minimum daily mean, 0 mg/l several days in 1981, 1982.

SEDIMENT LOAD: Maximum daily, 137,000 tons, Jan. 26, 1978; minimum daily, 0 ton several days in 1981, 1982.

03198690 SPRUCE FORK AT SHARPLES, WV

Kanawha Basin
Coal Subbasin

LOCATION.--Lat 37°55'27", long 81°49'42" referenced to North American Datum of 1983, Logan County, WV, Hydrologic Unit 05050009, at Sharples, 0.25 mi downstream from Beech Creek, and 1.8 mi southwest of Clothier.

DRAINAGE AREA.--44.1 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1999 to September 2001 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 819.31 ft above NAVD 88 (VERTCON conversion of 820 ft above NGVD 29, from GPS).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	15.4	20.5	30.1	35.5	94.9	65.4	86.9	98.9	54.1	68.0	53.7	25.2
Max	18.0	26.4	32.4	52.6	101	69.6	113	156	59.6	70.0	74.2	32.4
(WY)	(2001)	(2000)	(2001)	(2001)	(2000)	(2001)	(2000)	(2001)	(2000)	(2000)	(2000)	(2000)
Min	12.8	14.7	27.8	18.5	88.9	61.1	60.6	41.9	48.6	65.9	33.3	18.1
(WY)	(2000)	(2001)	(2000)	(2000)	(2001)	(2000)	(2001)	(2000)	(2001)	(2001)	(2001)	(2001)

DISCHARGE SUMMARY STATISTICS

Water Years 2000 - 2001

Annual mean	53.9	
Highest annual mean	54.8	2001
Lowest annual mean	52.9	2000
Highest daily mean	1,600	May 18, 2001
Lowest daily mean	6.5	Oct 1, 1999
Annual seven-day minimum	7.2	Nov 18, 1999
Maximum peak flow	4,220	May 18, 2001 (9.46 ft stage)
Instantaneous low flow	7.1	Jan 10, 2001
Annual runoff (cfsm)	1.22	
Annual runoff (inches)	16.59	
10 percent duration	103	
50 percent duration	31	
90 percent duration	14	

03198780 HUNTERS BRANCH NEAR MADISON, WVKanawha Basin
Coal Subbasin

LOCATION.--Lat 38°00'20", long 81°48'55" referenced to North American Datum of 1927, Mingo County, WV, Hydrologic Unit 05050009, at culvert on U.S. Highway 119, 4.0 mi south of Madison, and at mile 0.1.

DRAINAGE AREA.--1.97 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1977 (annual maxima). Water year 1973 published in OFR 80-560.

REVISED RECORDS.--WRD WV-75-1: 1974(M).

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 325 ft³/s, Mar. 6, 1967, gage height 7.60 ft.

03198800 LOW GAP CREEK NEAR MADISON, WVKanawha Basin
Coal Subbasin

LOCATION.--Lat 38°01'41", long 81°50'03" referenced to North American Datum of 1927, Boone County, WV, Hydrologic Unit 05050009, at culvert entrance to Low Gap Memory Gardens, 2.7 mi southwest of Madison, and at mile 0.2.

DRAINAGE AREA.--1.28 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1962 to September 1974, October 1975 to September 1977 (annual maxima). Water years 1964, 1966, and 1970 published in OFR 80-560.

REVISED RECORDS.--WDR WV-75-1: 1974(M).

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 240 ft³/s, May 27, 1968, and Feb. 26, 1972, gage height 17.75 ft.

03199000 LITTLE COAL RIVER AT DANVILLE, WV

Kanawha Basin
Coal Subbasin

LOCATION.--Lat 38°04'47", long 81°50'11" referenced to North American Datum of 1927, Boone County, WV, Hydrologic Unit 05050009, on right bank upstream from highway bridge at Danville, 900 ft upstream from Turtle Creek, 2.3 mi downstream from confluence of Pond and Spruce Forks, and at mile 25.5.

DRAINAGE AREA.--269 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1930 to September 1984 (daily discharge and peaks).

REVISED RECORDS.--WSP 1725: 1951 (M), 1955 (M). WDR WV-82-1: Drainage area. WDR WV-97-1: 1943(M), 1946(M).

GAGE.--Water-stage recorder. Datum of gage is 660.43 ft above NAVD 88 (VERTCON conversion of 661.12 ft above NGVD 29). Prior to Oct. 1, 1941, nonrecording gage at site 1.5 mi upstream at datum 6.80 ft higher and published as Little Coal River at Madison.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1930 - 1984, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	69.2	143	379	541	685	849	646	399	225	171	111	62.3
Max	456	587	1,391	1,447	2,071	2,016	1,391	1,197	909	974	640	351
(WY)	(1977)	(1980)	(1943)	(1974)	(1939)	(1955)	(1972)	(1958)	(1981)	(1938)	(1977)	(1950)
Min	1.22	3.53	12.6	13.3	66.1	228	130	62.9	4.24	0.64	2.81	0.28
(WY)	(1931)	(1940)	(1966)	(1940)	(1941)	(1966)	(1942)	(1941)	(1936)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1930 - 1984	
Annual mean	356
Highest annual mean	599 1979
Lowest annual mean	111 1941
Highest daily mean	23,500 Feb 3, 1939
Lowest daily mean	0.00 Jul 20, 1930
Annual seven-day minimum	0.00 Sep 16, 1930
Maximum peak flow	^a 42,800 Feb 3, 1939 (^b 30.2 ft stage)
Instantaneous low flow	0.00 (c)
Annual runoff (cfsm)	1.32
Annual runoff (inches)	17.99
10 percent duration	835
50 percent duration	141
90 percent duration	16
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	1.77
7 day 10 yr low flow	2.53
30 day 5 yr low flow	7.52

1 day 3 yr bio-based low flow	1.30
4 day 3 yr bio-based low flow	1.54
10 percent duration	845
50 percent duration	147
90 percent duration	17.7
EPA harmonic mean	37.5

^a From rating curve extended above 12,000 ft³/s on basis of slope-area measurement of peak flow.

^b From floodmarks, present site and datum.

^c No flow, at times July to Oct. 1930.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1973 to September 1983.

WATER TEMPERATURE: July 1973 to September 1984.

SUSPENDED-SEDIMENT RECORDS: August 1973 to September 1984.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,690 microsiemens, Oct. 18, 1973; minimum daily, 75 microsiemens, June 22, 1979.

WATER TEMPERATURE: Maximum, 34.5°C, July 18, 19, 1977; minimum, 0.0°C several days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 4,230 mg/L, Nov. 27, 1973; minimum daily mean, 0 mg/L several days during each year.

SEDIMENT LOAD: Maximum daily, 110,000 tons, Jan. 26, 1978; minimum daily, 0 ton several days during each year.

03199300 ROCK CREEK NEAR DANVILLE, WV

Kanawha Basin
Coal Subbasin

LOCATION.--Lat 38°06'00", long 81°49'48" referenced to North American Datum of 1927, Boone County, WV, Hydrologic Unit 05050009, 0.6 mi north of intersection of U.S. Route 119 and State Route 3, 1.5 mi north of Danville, and at mile 1.15.

DRAINAGE AREA.--12.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1978 to September 1984 (daily discharge and peaks), September 1998 to September 2006 (annual maxima).

REVISED RECORDS.--WDR WV-2003-1: 1980-84(P).

GAGE.--Crest-stage gage. Datum of gage is 674.77 ft above NAVD 88 (VERTCON conversion of 675.46 above NGVD 29). Prior to Sept. 30, 1984, water-stage recorder, present site and at a datum 0.01 foot higher.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Maximum discharge, 1,240 ft³/s, July 29, 2001, gage height, 10.01 ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1979 - 1984

Highest daily mean	459	Dec 9, 1978
Lowest daily mean	0.06	Sep 15, 1983 ^a
Annual seven-day minimum	0.06	Sep 25, 1983
Maximum peak flow	924	Jun 5, 1982 (9.41 ft stage)
Instantaneous low flow	0.06	Sep 15, 1983
10 percent duration	35	
50 percent duration	5.4	
90 percent duration	0.46	

^a Several days in September 1983 and October 1984.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1979 to September 1981.

WATER TEMPERATURE: May 1979 to September 1981.

SUSPENDED-SEDIMENT RECORDS: May 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 421 microsiemens, Sept. 23, 1981; minimum daily, 60 microsiemens, June 3, 1979.

WATER TEMPERATURE: Maximum daily, 28.0°C, July 7, 8, 1980; minimum daily, 0.0°C several days in 1981.

SEDIMENT CONCENTRATION: Maximum daily, 861 mg/L, May 31, 1981; minimum daily, 0 mg/L, Feb. 9, 11, 1980.

SEDIMENT LOAD: Maximum daily, 378 tons, June 6, 1980; minimum daily, 0 ton, Feb. 9, 11, 1980, many days in 1981.

03199320 ROCK CREEK AT ROCK CREEK, WV

Kanawha Basin

Coal Subbasin

LOCATION.--Lat 38°06'05", long 81°50'26" referenced to North American Datum of 1927, Boone County, WV, Hydrologic Unit 05050009, at State Highway 3 bridge at Rock Creek, 0.3 mi downstream from Low Gap Branch, 1.5 mi north of Danville, and at mile 0.5.

DRAINAGE AREA.--13.3 mi².

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1979 to September 1981.

WATER TEMPERATURE: May 1979 to September 1981.

SUSPENDED-SEDIMENT RECORDS: May 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 430 microsiemens, Aug. 30, 1981; minimum daily, 65 microsiemens, May 28, 1979.

WATER TEMPERATURE: Maximum daily, 28.0°C, July 7, 8, 1980; minimum daily, 0.0°C on several days in 1981.

SEDIMENT CONCENTRATION: Maximum daily, 1,530 mg/l, June 1, 1981; minimum daily, 0 mg/L, Feb. 9, 1980.

SEDIMENT LOAD: Maximum daily, 533 tons, July 15, 1979; minimum daily, 0 ton, Feb. 9, 1980, several days in 1981.

03199400 LITTLE COAL RIVER AT JULIAN, WV

Kanawha Basin
Coal Subbasin

LOCATION.--Lat 38°09'17", long 81°51'09" referenced to North American Datum of 1927, Boone County, WV, Hydrologic Unit 05050009, on left bank on downstream side of highway bridge on State Route 3 at Julian, 5.6 mi north of intersection of U.S. Highway 119 and State Route 3, and at mile 17.4.

DRAINAGE AREA.--318 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1974 to September 1984 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-82-1: Drainage area. WDR WV-83-1: 1975-82.

GAGE.--Water-stage recorder. Datum of gage is 633.43 ft above NAVD 88 (VERTCON conversion of 634.13 ft above NGVD 29). Prior to Apr. 21, 1976, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

	Water Years 1975 - 1984	
Annual mean	489	
Highest daily mean	21,000	Dec 9, 1978
Lowest daily mean	16	Jul 20, 1977
Annual seven-day minimum	20	Jul 15, 1977
Maximum peak flow	^a 23,800	Dec 9, 1978 (28.86 ft stage)
10 percent duration	1,130	
50 percent duration	236	
90 percent duration	47	

^a From rating curve extended above 1,300 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to September 1981.

WATER TEMPERATURE: February 1975 to September 1981.

SUSPENDED-SEDIMENT RECORDS: October 1974 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,270 microsiemens, Oct. 24, 1980; minimum daily, 65 microsiemens, Dec. 9, 1978.

WATER TEMPERATURE: Maximum daily, 33.0°C, July 18, 1977; minimum daily, -1.0°C, Jan. 17, 22, Dec. 31, 1976, Jan. 1, 10, 1977.

SEDIMENT CONCENTRATION: Maximum daily mean, 3,100 mg/L, Jan. 26, 1978; minimum daily mean, 0 mg/L on several days in 1975, 1977, 1979, 1981.

SEDIMENT LOAD: Maximum daily, 123,000 tons, Jan. 26, 1978; minimum daily, 0 ton on several days in 1975, 1978, 1979, 1981.

03199500 LITTLE COAL RIVER AT MCCORKLE, WV

Kanawha Basin
Coal Subbasin

LOCATION.--Lat 38°13'00", long 81°50'00" referenced to North American Datum of 1927, Lincoln County, WV, Hydrologic Unit 05050009, at McCorkle, 400 ft upstream from Cobb Creek.

DRAINAGE AREA.--375 mi², (includes Cobb Creek).

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1915 to September 1917 (daily discharge).

GAGE.--Staff gage. Datum of gage is approximately 624.32 ft above NAVD 88 (VERTCON conversion of 625 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1915 - 1917		
Highest daily mean	8,150	Aug 10, 1916
Lowest daily mean	3.0	Oct 7, 1916
Annual seven-day minimum	3.4	Oct 2, 1916
Maximum peak flow	^a 24,000	Aug 9, 1916 (28.57 ft stage)
Instantaneous low flow	3.0	Oct 6, 1916 ^b
10 percent duration	1,460	
50 percent duration	205	
90 percent duration	8.0	

^a From rating curve extended above 5,000 ft³/s.

^b Also Oct. 7, 8, 1916, and Sept. 7, 1917.

03199700 COAL RIVER AT ALUM CREEK, WV

Kanawha Basin
Coal Subbasin

LOCATION.--Lat 38°17'12", long 81°48'24" referenced to North American Datum of 1927, Lincoln County, WV, Hydrologic Unit 05050009, on downstream side of highway bridge on State Route 214 at Alum Creek, 1.1 mi downstream from confluence of Big Coal and Little Coal Rivers, and at mile 17.5.

DRAINAGE AREA.--837 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1974 to September 1979 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is approximately 589.32 ft above NAVD 88 (VERTCON conversion of 590 ft above NGVD 29, from topographic map). Prior to Mar. 19, 1976, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1975 - 1979		
Annual mean	1,320	
Highest daily mean	30,000	Dec 9, 1978
Lowest daily mean	44	Jul 21, 1977
Annual seven-day minimum	55	Jul 16, 1977
Maximum peak flow	^a 34,100	Jan 26, 1978 (33.61 ft stage)
10 percent duration	2,840	
50 percent duration	634	
90 percent duration	116	

^a From rating curve extended above 14,000 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to December 1976, March 1977 to September 1980.

WATER TEMPERATURE: December 1974 to December 1976, April 1977 to September 1980.

SUSPENDED-SEDIMENT RECORDS: October 1974 to September 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 884 microsiemens, Sept. 7, 1975; minimum daily, 87 microsiemens, Dec. 9, 1978.

WATER TEMPERATURE: Maximum daily, 31.0°C, July 17, 1977; minimum daily mean, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 3,500 mg/L, Jan. 26, 1978; minimum daily mean, 0 mg/L, Nov. 22, 1976, June 23, 1977.

SEDIMENT LOAD: Maximum daily, 246,000 tons, Jan. 26, 1978; minimum daily, 0 ton, Nov. 22, 1977, June 23, 1978.

03200000 COAL RIVER AT FUQUA, WV

Kanawha Basin
Coal Subbasin

LOCATION.--Lat 38°18'55", long 81°49'00" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050009, 1 mi downstream from Fuqua Creek.

DRAINAGE AREA.--849 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1911 to September 1916 (daily discharge and peaks).

GAGE.--Staff gage. Datum of gage is approximately 599.33 ft above NAVD 88 (VERTCON conversion of 600 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

	Water Years 1912 - 1916	
Annual mean	1,100	
Highest daily mean	20,400	Aug 10, 1916
Lowest daily mean	13	Sep 6, 7, 1913
Annual seven-day minimum	15	Sep 2, 1913
Maximum peak flow	^a 47,300	Aug 9, 1916 (^b 36.6 ft stage)
Instantaneous low flow	13	Sep 6, 7, 1913
10 percent duration	2,700	
50 percent duration	450	
90 percent duration	41	

^a From rating curve extended above 15,000 ft³/s.

^b From floodmark.

03200500 COAL RIVER AT TORNADO, WV

Kanawha Basin
Coal Subbasin

LOCATION.--Lat 38°20'20", long 81°50'30" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050009, on downstream side of highway bridge at Tornado, 0.2 mi upstream from Falls Creek, and at mile 11.5.

DRAINAGE AREA.--862 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1908 to September 1911, and November 1928 to September 1931 (daily discharge and peaks), August 1961 to September 1972 (daily discharge and annual maxima), October 1972 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-82-1: Drainage area. WDR WV-97-1: 1962-63(M), 1967(M), 1970(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 569.81 ft above NAVD 88 (570.47 ft above NGVD 29, corrected). Aug. 1, 1961, to Jan. 9, 1973, nonrecording gage at same site and datum. Prior to Aug. 1, 1961, nonrecording gage at same site at different datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1908 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	370	812	1,288	1,689	2,139	2,431	2,066	1,565	853	569	428	320
Max	1,832	4,457	3,723	4,433	5,296	5,634	4,812	5,122	2,840	2,248	1,394	1,484
(WY)	(1990)	(2004)	(1973)	(1979)	(2003)	(1963)	(1987)	(1996)	(2003)	(2001)	(1968)	(2003)
Min	3.05	10.5	46.7	209	479	757	509	234	47.2	8.67	26.1	7.00
(WY)	(1931)	(1931)	(1931)	(1931)	(2002)	(1910)	(1986)	(1930)	(1930)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1908 - 2008	
Annual mean	1,207
Highest annual mean	1,859 2004
Lowest annual mean	585 1988
Highest daily mean	32,000 Dec 31, 1969
Lowest daily mean	^e 2.0 Oct 1-9, 1930
Annual seven-day minimum	2.0 Oct 1, 1930
Maximum peak flow	39,900 Mar 7, 1967 (31.98 ft stage)
Instantaneous low flow	2.0 Oct 1, 1930
Annual runoff (cfsm)	1.40
Annual runoff (inches)	19.03
10 percent duration	2,720
50 percent duration	650
90 percent duration	116
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	19.7
7 day 10 yr low flow	26.7
30 day 5 yr low flow	109
1 day 3 yr bio-based low flow	9.97
4 day 3 yr bio-based low flow	17.8
10 percent duration	2,910
50 percent duration	847
90 percent duration	239
EPA harmonic mean	419

^e Estimated.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to September 1983.

WATER TEMPERATURE: May to July 1975, June to September 1976 (once daily), October 1976 to September 1984.

TURBIDITY: October 1980 to September 1984.

SUSPENDED-SEDIMENT RECORDS: December 1972 to September 1984.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,020 microsiemens, Oct. 23, 24, 1973; minimum daily, 88 microsiemens, Dec. 9, 1978, June 22, 1979.

WATER TEMPERATURE: Maximum recorded, 31.5°C, July 8, 19, 20, 1977; minimum recorded, -0.5°C, Dec. 31, 1980, Jan. 1, 2, 1981.

TURBIDITY: Maximum, 1,500 NTU, May 30, 1982; minimum, 0.2 NTU, Nov. 15, 1982.

SEDIMENT CONCENTRATION: Maximum daily mean, 4,000 mg/L, Mar. 17, 1973; minimum daily mean, 0 mg/L on several days in April 1978, Feb. 5, Mar. 21, 22, 1979, Jan. 17, Apr. 29, 1982.

SEDIMENT LOAD: Maximum daily, 263,000 tons, Jan. 26, 1978; minimum daily, 0 ton on several days in April 1978, Feb. 5, Mar. 21, 22, 1979, Jan. 17, Apr. 29, 1982.

03200600 LITTLE SCARY CREEK NEAR NITRO, WV

Kanawha Basin
Lower Kanawha Subbasin

LOCATION.--Lat 38°27'04", long 81°51'14" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008, at culvert on Interstate Highway 64, 0.2 mi west of St. Albans interchange, 2.5 mi northwest of Nitro, and at mile 1.0.

DRAINAGE AREA.--0.87 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1965 to September 1977 (annual maxima). Water years 1969 and 1970 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 224 ft³/s, Oct. 16, 1974, gage height 13.50 ft.

03200650 KANAWHA RIVER AT POCA, WV

Kanawha Basin
Lower Kanawha Subbasin

LOCATION.--Lat 38°28'29", long 81°49'09" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008, on left bank at John Amos Power Plant, 200 ft upstream from Pocatalico River, and at mile 39.2.

DRAINAGE AREA.--11,435 mi².

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1975 to September 1992.

REMARKS.--Once-daily readings furnished by Appalachian Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 37.0°C, July 27, 1982; minimum daily, 0.0°C, Jan. 18, 1977.

03201000 POCATALICO RIVER AT SISSONVILLE, WV

Kanawha Basin
Lower Kanawha Subbasin

LOCATION.--Lat 38°31'34", long 81°37'53" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050008, on right bank at downstream side of bridge on State Route 21 at Sissonville, 0.3 mi downstream from Grapevine Creek, 1.9 mi downstream from Pocatalico Creek, and at mile 25.6.

DRAINAGE AREA.--238 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1908 to September 1916, June 1930 to September 1931, March 1937 to September 1978, May 1979 to September 1980, and October 1996 to September 1997 (daily discharge and peaks), October 1997 to September 1998 (daily discharge greater than 130 ft³/s and peaks), October 1998 to September 1999 (annual maxima).

REVISED RECORDS.--WSP 1335: 1908-10, 1912, 1913, 1915, 1916. WDR WV-97-1: 1909(M), 1910(M), 1911(P), 1913(P), 1914(P), 1916(P), 1931(M), 1939(M), 1948(P), 1949(M), 1950(P), 1951(P), 1952(M), 1955-57(P), 1960(M), 1962(M), 1973-78(P), 1980(P). WDR-US-2008: 1973, 1977.

GAGE.--Water-stage recorder. Datum of gage is 594.56 ft above COE 12. Prior to Nov. 5, 1948, nonrecording gage, and at datum 0.59 ft lower June 26, 1908 to Sept. 30, 1916.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow from 18.8 mi² upstream from station is partially controlled, but not diverted, by two floodwater detention reservoirs with a combined detention capacity of 15,238 acre-ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1908 - 1998, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	89.9	190	379	513	591	659	461	267	147	125	109	59.0
Max	734	800	1,409	1,182	1,393	1,710	1,138	928	856	657	615	516
(WY)	(1977)	(1974)	(1973)	(1974)	(1939)	(1997)	(1939)	(1967)	(1910)	(1958)	(1980)	(1971)
Min	0.08	0.08	0.59	43.2	36.4	84.4	13.3	12.2	0.41	1.01	0.30	0.13
(WY)	(1954)	(1954)	(1931)	(1931)	(1954)	(1910)	(1915)	(1939)	(1914)	(1944)	(1965)	(1939)

DISCHARGE SUMMARY STATISTICS

Water Years 1908 - 1998	
Annual mean	300
Highest annual mean	509 1916
Lowest annual mean	115 1954
Highest daily mean	13,200 Mar 2, 1997
Lowest daily mean	0.00 (a)
Annual seven-day minimum	0.02 Sep 5, 1965
Maximum peak flow	15,500 Apr 16, 1939
Maximum peak stage (ft)	35.70 Jun 29, 1998
Instantaneous low flow	0.00 (a)
Annual runoff (cfsm)	1.26
Annual runoff (inches)	17.11
10 percent duration	728
50 percent duration	75
90 percent duration	2.3
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.01
7 day 10 yr low flow	0.06
30 day 5 yr low flow	0.60
1 day 3 yr bio-based low flow	0.00
4 day 3 yr bio-based low flow	0.00
10 percent duration	796
50 percent duration	80.0
90 percent duration	3.5
EPA harmonic mean	1.90

^a No flow, Sept. 25-29, 1959, July 9, Aug. 4, 6-8, 20, 21, Sept. 11, 12, 17, 18, 1966.

03201300 KANAWHA RIVER AT WINFIELD, WV

Kanawha Basin
Lower Kanawha Subbasin

LOCATION.--Lat 38°31'32", long 81°54'40" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008, on left bank, at Kanawha Valley Power Company raw water intake at Winfield Dam, 1.0 mi downstream from Winfield Bridge, and at mile 31.1.

DRAINAGE AREA.--11,809 mi².

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-70, 1974-1995, 1997, 1998.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1957 to September 1970, January 1974 to September 1980.

pH: October 1974 to September 1980.

WATER TEMPERATURE: October 1956 to September 1970, January 1974 to September 1980.

DISSOLVED OXYGEN: October 1974 to September 1980.

REMARKS.--Daily records through 1980 furnished by Ohio River Valley Water Sanitation Commission (ORSANCO). Samples taken at upstream side of Winfield Bridge, January 1974 to September 1995. Samples collected by boat immediately upstream from Winfield Bridge, October 1996 to September 1998. Discharges are estimated from upstream gaging stations.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,700 microsiemens, Apr. 21, 1961; minimum, 76 microsiemens, Mar. 17, 1978.

pH: Maximum daily, 8.6 units, May 14, 1977; minimum daily, 5.3 units, July 16, 1979.

WATER TEMPERATURE: Maximum daily, 33.0°C, July 24, 1964; minimum daily, 0.0°C, Feb. 14, 1958, Mar. 12, 1960, Jan. 30, 1978.

DISSOLVED OXYGEN: Maximum daily, 16.0 mg/L, Feb. 19, 20, 1977; minimum daily, 3.1 mg/L, July 28, 1977.

03201405 HURRICANE CREEK AT HURRICANE, WV

Kanawha Basin
Lower Kanawha Subbasin

LOCATION.--Lat 38°26'43", long 82°00'25" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008, on right bank at Interstate 64 bridge over Hurricane Creek, 3.1 mi upstream from Trace Creek, 1.1 mi downstream from Mill Creek, and at mile 14.4.

DRAINAGE AREA.--26.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1998 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-2004-1: 1999-2003(P).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 599.39 ft above NAVD 88 (VERTCON conversion of 600.00 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1998 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	16.4	35.9	34.5	42.5	56.7	59.8	51.9	40.3	17.5	27.3	17.0	21.5
Max	67.5	161	80.0	76.3	157	104	85.2	116	66.3	80.6	50.2	102
(WY)	(2007)	(2004)	(2008)	(2004)	(2003)	(2002)	(2004)	(2001)	(2003)	(2000)	(2005)	(2004)
Min	1.50	1.96	6.79	9.18	10.3	14.4	11.5	2.25	0.79	0.42	1.12	0.20
(WY)	(2002)	(2002)	(2002)	(2000)	(2002)	(2006)	(1999)	(1999)	(1999)	(1999)	(2007)	(2008)

DISCHARGE SUMMARY STATISTICS		
Water Years 1998 – 2008		
Annual mean	35.0	
Highest annual mean	62.2	2004
Lowest annual mean	17.8	1999
Highest daily mean	1,660	Nov 19, 2003
Lowest daily mean	0.08	Jul 18, 19, 1999
Annual seven-day minimum	0.09	Jul 13, 1999
Maximum peak flow	3,690	Nov 19, 2003 (18.01 ft stage)
Instantaneous low flow	0.06	Jul 18, 19, 1999
Annual runoff (cfsm)	1.31	
Annual runoff (inches)	17.73	
10 percent duration	78	
50 percent duration	8.6	
90 percent duration	1.0	

03201410 POPLAR FORK AT TEAYS, WV

Kanawha Basin
Lower Kanawha Subbasin

LOCATION.--Lat 38°27'02", long 81°55'54" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008, on right wingwall at box culvert on Secondary Route 46, 0.6 mi east of Teays Valley, WV.

DRAINAGE AREA.--8.47 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1967 to September 1978 (daily discharge and peaks), October 1991 to September 2008 (annual maxima).

REVISED RECORDS.--WDR WV-97-1: 1967-78(P). WDR WV-2001-1: Drainage area.

GAGE.--Crest-stage gage. Datum of gage is 642.39 ft above NAVD 88 (VERTCON conversion of 643.00 ft above NGVD 29). Prior to Oct. 1, 1978, water-stage recorder at site 2,000 ft downstream, drainage area of 8.71 mi², and at different datum.

REMARKS.--Affected by urbanization January 1967 to September 1978.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--11 years (water years 1968-78), 13.1 ft³/s, 20.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft³/s, May 27, 1968, gage height, 15.34 ft; minimum daily, 0.02 ft³/s, July 7, 9, 10, 18, 21, 24, 1968.

03201420 LONG BRANCH NEAR TEAYS, WV

Kanawha Basin
Lower Kanawha Subbasin

LOCATION.--Lat 38°28'43", long 81°55'49" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008, on State Route 34, 1.5 mi north of Winfield Interchange on Interstate 64, and 2.0 mi north of Teays.

DRAINAGE AREA.--2.05 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1977 (annual maxima). Water year 1966 published in OFR 80-560.

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 407 ft³/s, Mar. 12, 1968, gage height 12.90 ft.

03201440 SIXTEENMILE CREEK NEAR PLINY, WV

Kanawha Basin
Lower Kanawha Subbasin

LOCATION.--Lat 38°38'39", long 82°02'53" referenced to North American Datum of 1927, Mason County, WV, Hydrologic Unit 05050008, at culvert on Pliny to Apple Grove Road, 2.0 miles from Mason-Putnam County line, and 3.7 miles northwest of Pliny.

DRAINAGE AREA.--1.04 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1977 (annual maxima).

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 870 ft³/s, 1973, gage height 13.10 ft.

03201480 THREEMILE CREEK TRIBUTARY NEAR POINT PLEASANT, WV

Kanawha Basin
Lower Kanawha Subbasin

LOCATION.--Lat 38°50'15", long 82°05'42" referenced to North American Datum of 1927, Mason County, WV, Hydrologic Unit 05050008, at culvert on State Route 2, at intersection of U.S. Highway 35 and State Route 2, 0.2 mile upstream from mouth, and 2.5 miles southeast of Point Pleasant.

DRAINAGE AREA.--0.70 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 1977 (annual maxima).

GAGE.--Crest-stage gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 299 ft³/s, Apr. 11, 1965, gage height 9.10 ft.

03201500 OHIO RIVER AT POINT PLEASANT, WV

Middle Ohio-Raccoon Basin
Raccoon-Symmes Subbasin

LOCATION.--Lat 38°50'38", long 82°08'23" referenced to North American Datum of 1927, Mason County, WV, Hydrologic Unit 05090101, on left bank at Point Pleasant, 0.4 mi upstream from Kanawha River, and at mile 265.2, measured downstream from Pittsburgh, PA.

DRAINAGE AREA.--52,740 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1940 to October 1952 (daily discharge and annual maxima), November 1952 to September 1977 (daily mean discharges greater than 50,000 ft³/s and annual maxima), October 1977 to September 2008 (annual maximum gage height).

REVISED RECORDS.--WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 513.08 ft above NAVD 88 (VERTCON conversion of 513.72 ft above NGVD 29, levels by U.S. Army Corps of Engineers; 514.08 ft above Ohio River Datum). Prior to July 20, 2005, at site 0.2 mi downstream at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow regulated by Ohio River system of locks, dams, and reservoirs upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 30, 1913, reached a stage of 62.8 ft, highest since 1896. Flood of Jan. 27, 1937 reached a stage of 62.7 ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1940 - 1977		
Highest daily mean	514,000	Jan 1, 1943
Lowest daily mean	6,660	Sep 16, 1946
Annual seven-day minimum	6,680	Sep 16, 1946
Maximum peak flow	522,000	Jan 1, 1943
Maximum peak stage (ft)	55.00	Apr 16, 1948
10 percent duration	166,000	
50 percent duration	47,900	
90 percent duration	12,500	

03202240 ALLEN CREEK AT ALLEN JUNCTION, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°35'33", long 81°20'48" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, on right bank, on county road 0.4 mi north of intersection with State Route 16, 0.4 mi northeast of Allen Junction, 1.5 mi north of Corinne, and at mile 0.3.

DRAINAGE AREA.--8.43 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1977 to December 1979 (daily discharge).

GAGE.--Water-stage and rainfall recorders. Datum of gage is approximately 1,499.47 ft above NAVD 88 (VERTCON conversion of 1,500 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1978 - 1980		
Highest daily mean	318	Jan 26, 1978
Lowest daily mean	0.35	Sep 30, 1978
Annual seven-day minimum	0.41	Sep 24, 1978
Maximum peak flow	750	Jan 21, 1979 (5.99 ft stage)
10 percent duration	24	
50 percent duration	8.1	
90 percent duration	0.87	

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to December 1979.

pH: March 1978 to September 1979.

WATER TEMPERATURE: November 1977 to December 1979.
TURBIDITY: March 1978 to December 1979.
SUSPENDED-SEDIMENT RECORDS: November 1977 to December 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 602 microsiemens, Sept. 21, 1979; minimum daily, 104 microsiemens, Jan. 26, 1978.
pH: Maximum daily, 8.5 units on many days in September through December 1978; minimum daily, 6.3 units, Dec. 20, 1978.
WATER TEMPERATURE: Maximum daily, 27.0°C, Aug. 15, 1979; minimum daily, 0.0°C, Jan. 10, 11, 1978.
TURBIDITY: Maximum daily, 100 NTU, Apr. 26, 1978, Mar. 20, 1979; minimum daily, 0.6 NTU, Dec. 21, 23, 1979.
SEDIMENT CONCENTRATION: Maximum daily mean, 902 mg/L, Jan. 26, 1978; minimum daily mean, 1 mg/L, Oct. 28, 29, 1978.
SEDIMENT LOAD: Maximum daily, 917 tons, Jan. 26, 1978; minimum daily, 0 ton on several days in October through November 1978.

03202245 MARSH FORK AT MABEN, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°38'19", long 81°23'38" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, on left upstream wingwall of culvert on State Route 97, 0.1 miles west of Maben, near Twin Falls State Park, and at mile 0.1.

DRAINAGE AREA.--4.85 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1977 to September 1980 (daily discharge and peaks), September 1998 to September 2008 (annual maxima).

REVISED RECORDS.--WDR WV-2004-1: 2003(M).

GAGE.--Two crest-stage gages, lower pipe installed Apr. 20, 2005. Datum of gage is approximately 1,589.46 ft above NAVD 88 (VERTCON conversion of 1,590 ft above NGVD 29, from topographic map). Prior to October 1, 1980, water-stage and rainfall recorders, 100 feet upstream, at different datum.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,800 ft³/s, July 8, 2001, from floodmarks on basis of slope-area measurement of peak flow, gage height, 15.38 ft, highest since 1977; minimum daily, 0.08 ft³/s, Aug. 23-28, Oct. 10, 1978.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to September 1980.
pH: March 1978 to September 1979.
WATER TEMPERATURE: November 1977 to September 1980.
TURBIDITY: March 1978 to September 1980.
SUSPENDED-SEDIMENT RECORDS: November 1977 to September 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 223 microsiemens, Aug. 22, 1978; minimum daily, 40 microsiemens, Jan. 21, 1979.
pH: Maximum observed, 8.1 units, Aug. 22, 1978; minimum observed, 6.2 units, Apr. 25, May 9, 1978, and on several days January through March 1979.
WATER TEMPERATURE: Maximum daily, 27.0°C, July 21, 1980; minimum daily, -1.0°C on several days December 1978 through February 1979.
TURBIDITY: Maximum daily, 180 NTU, June 6, 1980; minimum daily, 1 NTU on several days in 1978 and 1979, July 26, 1980.
SEDIMENT CONCENTRATION: Maximum daily mean, 484 mg/L, July 6, 1980; minimum daily mean, 0 mg/L on many days during 1978, 1979, and 1980.
SEDIMENT LOAD: Maximum daily, 293 tons, Jan. 26, 1978; minimum daily, 0 ton on many days during 1978, 1979, and 1980.

03202255 STILL RUN AT ITMANN, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°34'51", long 81°25'42" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, on right bank, on dirt road 0.2 mi east of intersection with State Route 10/16, 0.9 mi northwest of Itmann, 2.7 mi west of Mullens, and at mile 0.3.

DRAINAGE AREA.--7.12 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1977 to December 1979 (daily discharge).

GAGE.--Water-stage and rainfall recorders. Datum of gage is approximately 1,379.46 ft above NAVD 88 (VERTCON conversion of 1,380 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1978 - 1980		
Highest daily mean	376	Jan 26, 1978
Lowest daily mean	0.08	Oct 12, 1978
Annual seven-day minimum	0.16	Oct 19, 1978
Maximum peak flow	1,510	Jan 26, 1978 (6.94 ft stage)
10 percent duration	31	
50 percent duration	6.0	
90 percent duration	0.39	

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to December 1979.

pH: March 1978 to September 1979.

WATER TEMPERATURE: November 1977 to December 1979.

TURBIDITY: March 1978 to December 1979.

SUSPENDED-SEDIMENT RECORDS: November 1977 to December 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,010 microsiemens, Sept. 17, 18, 1979; minimum daily, 40 microsiemens, Jan. 20, 21, 1979.

pH: Maximum daily, 8.6 units on several days during September 1979; minimum daily, 6.1 units, Apr. 27, May 3, 6, 1978.

WATER TEMPERATURE: Maximum daily, 28.0°C on several days in 1978, June 15, 1979; minimum daily, 0.0°C Feb. 10, 11, Dec. 18, 1979.

TURBIDITY: Maximum daily, 200 NTU, May 12, 1979; minimum daily, 0.9 NTU, Dec. 18, 1979.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,350 mg/L, Jan. 21, 1979; minimum daily mean, 0 mg/L, Nov. 23, Dec. 7-10, 22, 1979.

SEDIMENT LOAD: Maximum daily, 1,150 tons, Jan. 26, 1978; minimum daily, 0 ton on several days in 1978, and Nov. 23, Dec. 7-10, 22, 1979.

03202260 BLACK FORK ABOVE BLACK FORK FALLS NEAR MULLENS, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°37'08", long 81°26'57" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, on right bank 200 ft downstream from confluence of Dixon Branch and Black Fork, and 4.5 mi northwest of Mullens.

DRAINAGE AREA.--2.68 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1980 to January 1983 (daily discharge).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,932.42 ft above NAVD 88 (VERTCON conversion of 1,932.95 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1981 - 1983		
Highest daily mean	81	May 19, 1981
Lowest daily mean	0.00	Aug 21, 1981 ^a
Annual seven-day minimum	0.00	Aug 21, 1981
Maximum peak flow	224	Aug 9, 1982 (3.67 ft stage)
Instantaneous low flow	0.00	(a)
10 percent duration	8.3	
50 percent duration	0.70	
90 percent duration	0.00	

^a No flow many days in 1981-82.

03202262 BLACK FORK AT MOUTH NEAR MULLENS, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°37'30", long 81°27'12" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, on right bank, 4.6 mi northwest of Mullens, and 50 ft upstream from mouth.

DRAINAGE AREA.--2.76 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1980 to January 1983 (daily discharge).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,807.95 ft above NAVD 88 (VERTCON conversion of 1,808.48 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1981 - 1983		
Highest daily mean	84	May 19, 1981
Lowest daily mean	0.10	Oct 16, 1981 ^a
Annual seven-day minimum	0.10	Nov 13, 1981
Maximum peak flow	242	Aug 9, 1982 (3.54 ft stage)
Instantaneous low flow	0.09	Aug 27, 28, 1981
10 percent duration	8.7	
50 percent duration	1.2	
90 percent duration	0.16	

^a Also Oct. 17, Nov. 14-16, 19, 1981.

03202310 BEARHOLE FORK AT PINEVILLE, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°35'16", long 81°31'12" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, on left bank, on State Secondary Route 97, 0.7 mi east of intersection with State Route 10, 1.0 mi east of Pineville, and at mile 0.6.

DRAINAGE AREA.--6.27 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1977 to December 1979 (daily discharge).

GAGE.--Water-stage and rainfall recorders. Datum of gage is approximately 1,379.44 ft above NAVD 88 (VERTCON conversion of 1,380 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS	
Water Years 1978 - 1980	
Highest daily mean	278 Jan 26, 1978
Lowest daily mean	0.06 Nov 13, 14, 1978
Annual seven-day minimum	0.08 Nov 8, 1978
Maximum peak flow	1,400 Jun 21, 1979 (6.77 ft stage)
10 percent duration	29
50 percent duration	6.2
90 percent duration	0.18

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to December 1979.

pH: March 1978 to September 1979.

WATER TEMPERATURE: November 1977 to December 1979.

TURBIDITY: March 1978 to December 1979.

SUSPENDED SEDIMENT RECORDS: November 1977 to December 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 189 microsiemens, Nov. 20, 1978; minimum daily, 31 microsiemens, Apr. 5, 1979.

pH: Maximum daily, 8.2 units, July 20, Oct. 4, 1978; minimum daily, 5.9 units, May 11, 1979.

WATER TEMPERATURE: Maximum daily, 28.0°C, Sept. 4, 1978, June 14, 1979; minimum daily, 0.0°C, Jan. 10, 1978, Jan. 4, Feb. 1, 5, 6, 11, 18, Dec. 19, 1979.

TURBIDITY: Maximum daily, 150 NTU, Aug. 31, 1978; minimum daily, 0.5 NTU, Apr. 25, 1979.

SEDIMENT CONCENTRATION: Maximum daily mean, 379 mg/L, June 21, 1979; minimum daily mean, 0 mg/L, Oct. 24, Nov. 17, 18, 21, 1979.

SEDIMENT LOAD: Maximum daily, 744 tons, June 21, 1979; minimum daily, 0 ton on many days during 1978 and 1979.

03202400 GUYANDOTTE RIVER AT BAILEYSVILLE, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°36'14", long 81°38'43" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, on right bank 75 ft upstream from Doublecamp Branch, 3.1 mi east of Baileysville, and at mile 130.8.

DRAINAGE AREA.--306 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1968 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,139.5 ft above NAVD 88 (1,140.0 ft above NGVD 29). Prior to Sept. 10, 1969, at site 25 ft upstream at same datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1968 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	146	245	390	580	732	777	742	600	318	225	169	110
Max	680	1,143	1,294	1,894	1,824	1,969	2,003	1,395	1,262	1,452	649	367
(WY)	(1990)	(2004)	(1973)	(1974)	(2003)	(1975)	(1987)	(2001)	(1981)	(2001)	(1972)	(2003)
Min	35.6	33.8	62.4	127	173	193	211	198	88.6	65.2	49.8	40.8
(WY)	(1979)	(1979)	(1998)	(2000)	(2002)	(1988)	(1986)	(1976)	(1999)	(1999)	(1970)	(2007)

DISCHARGE SUMMARY STATISTICS

Water Years 1968 - 2008	
Annual mean	418
Highest annual mean	692 2003
Lowest annual mean	174 1988
Highest daily mean	17,900 Apr 5, 1977
Lowest daily mean	23 Nov 11, 1978
Annual seven-day minimum	27 Oct 17, 1978
Maximum peak flow	^a 46,400 Jul 8, 2001 (^b 31.25 ft stage)
Instantaneous low flow	21 Oct 14, 1970
Annual runoff (cfsm)	1.37
Annual runoff (inches)	18.58
10 percent duration	902
50 percent duration	231
90 percent duration	58

^a From rating curve extended above 37,000 ft³/s on basis of slope-conveyance measurement.

^b From floodmarks.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1973 to October 1976, January 1977 to September 1979.

WATER TEMPERATURE: October 1973 to January 1982.

SUSPENDED SEDIMENT RECORDS: July 1973 to September 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 764 microsiemens, Oct. 22, 1973, Oct. 14, 1974; minimum daily, 58 microsiemens, Mar. 30, 1975.

WATER TEMPERATURE: Maximum, 30.5°C, June 28, 1978; minimum, 0.0°C many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 2,200 mg/L, Jan. 26, 1978; minimum daily mean, 0 mg/L, Nov. 12, 23, 1976.

SEDIMENT LOAD: Maximum daily, 56,800 tons, Jan. 26, 1978; minimum daily, 0 ton, Nov. 12, 23, 1976.

03202480 BRIER CREEK AT FANROCK, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.-- Lat 37°33'48", long 81°39'09" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, on right bank on Secondary State Route 14, 0.3 miles south of Fanrock, and at mile 0.3.

DRAINAGE AREA.—7.34 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.—July 1969 to September 1977 (daily discharge and peaks), September 1993 to September 2008 (annual maxima). Prior to October 1975, published as Briar Creek at Fanrock.

REVISED RECORDS.-- WDR WV-97-1: Drainage area. WDR WV-2003-1: 1997-2002(M). WDR WV-2005-1: 2002(M).

GAGE.-- Crest-stage gage. Elevation of gage is 1,212.26 ft above NAVD 88 (1,212.84 ft above NGVD 29). Prior to September 30, 1977, water-stage recorder at same site and datum.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--8 years (water years 1970-77), 10.5 ft³/s, 19.80 in/yr.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft³/s, May 16, 1996, gage height, unknown, estimated on basis of unit-runoff comparison with discharge at Indian Creek at Fanrock (03202490), highest since 1970; minimum daily, 0.06 ft³/s, Oct. 22-31, 1969.

03202490 INDIAN CREEK AT FANROCK, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°34'01", long 81°39'08" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, on left bank at Fanrock, 20 ft downstream from Briar Creek, 1.8 mi downstream from Stop Branch, and at mile 2.5.

DRAINAGE AREA.--41.3 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1974 to September 1981 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is approximately 1,209.42 ft above NAVD 88 (VERTCON conversion of 1,210 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 16, 1996 reached a stage of 19.80 ft (from floodmarks), discharge, 6,800 ft³/s, highest since 1970. Flood of July 2001 reached a stage of 17.11 ft (from floodmarks), discharge, 4,940 ft³/s. Flood of May 2002 reached a stage of 12.86 ft (from floodmarks), discharge not determined.

DISCHARGE SUMMARY STATISTICS		
Water Years 1974 - 1981		
Annual mean	57.2	
Highest daily mean	2,670	Apr 4, 1977
Lowest daily mean	1.2	Jul 22, 1976 ^a
Annual seven-day minimum	1.3	Aug 20, 1976
Maximum peak flow	^b 6,300	Apr 4, 1977 (18.67 ft stage)
Instantaneous low flow	1.1	Jul 22, 1976 ^c
10 percent duration	140	
50 percent duration	22	
90 percent duration	3.0	

^a Also July 23, Aug. 12-14, 1976.

^b From rating curve extended above 700 ft³/s on basis of slope-area measurement of peak flow.

^c Also July 23, 24, Aug. 12, 13, 14, 1976.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1974 to September 1978.

WATER TEMPERATURE: November 1974 to March 1975, August 1975 to August 1981.

SUSPENDED SEDIMENT RECORDS: June 1974 to September 1978.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 349 microsiemens, July 20, 1976; minimum daily, 42 microsiemens, Jan. 1, 1976.

WATER TEMPERATURE: Maximum, 26.0°C, Aug. 24, 1975, Aug. 11, 1980; minimum, -1.0°C, Jan. 6, 1979.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,130 mg/L, Mar. 10, 1978; minimum daily mean, 1 mg/L, Oct. 8, 1974, several days during 1976, and Apr. 17, 1978.

SEDIMENT LOAD: Maximum daily, 5,410 tons, Apr. 4, 1977; minimum daily, 0 ton, Oct. 8, 1974.

03202695 MILAM FORK AT MCGRAWS, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°40'48", long 81°28'27" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, on left bank, 0.9 mi northwest of McGraws, and at mile 0.9.

DRAINAGE AREA.--6.64 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1977 to December 1979 (daily discharge).

GAGE.--Water-stage and rainfall recorders. Datum of gage is approximately 1,759.46 ft above NAVD 88 (VERTCON conversion of 1,760 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

	Water Years 1978 - 1980	
Highest daily mean	375	Jan 21, 1979
Lowest daily mean	0.03	Nov 13, 14, 1978
Annual seven-day minimum	0.04	Nov 8, 1978
Maximum peak flow	609	Jan 26, 1978 (10.29 ft stage)
10 percent duration	35	
50 percent duration	5.1	
90 percent duration	0.10	

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February to December 1979.
 pH: February to September 1979.
 TURBIDITY: February to December 1979.
 SUSPENDED SEDIMENT RECORDS: February to December 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 502 microsiemens, Sept. 20, 1979; minimum daily, 42 microsiemens, Feb. 25, Apr. 5, 1979.
 pH: Maximum daily, 8.4 units, Aug. 11, 18, 1979; minimum daily, 5.9 units, Apr. 12, 1979.
 TURBIDITY: Maximum daily, 100 NTU, Aug. 20, Sept. 22, 1979; minimum daily, 1.5 NTU, Apr. 19, 20, 1979.
 SEDIMENT CONCENTRATION: Maximum daily mean, 234 mg/L, July 13, 1979; minimum daily mean, 0 mg/L, Mar. 15, 16, several days in December 1979.
 SEDIMENT LOAD: Maximum daily, 176 tons, July 13, 1979; minimum daily, 0 ton Mar. 15, 16, several days in December 1979.

03202750 CLEAR FORK AT CLEAR FORK, WV

Guyandotte Basin
 Upper Guyandotte Subbasin

LOCATION.--Lat 37°37'23", long 81°42'27" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, on left bank 0.2 mi downstream from Walls Branch, 0.7 mi upstream from Spratt Branch, 1.4 mi southwest of Clear Fork, and at mile 2.6.

DRAINAGE AREA.--126 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1974 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-81-1: Drainage area. WDR WV-94-1: 1993.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is approximately 1,149.39 ft above NAVD 88 (VERTCON conversion of 1,150 ft above NGVD 29, from topographic map). June 28, 1974, to Oct. 22, 1974, nonrecording gage; Oct. 23, 1974, to Oct. 26, 1977, digital recorder at site 0.9 mi upstream at different datum; Oct. 27, 1977, to Dec. 31, 1980, digital recorder at site 0.2 mi upstream at different datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1974 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	63.7	130	199	285	348	364	328	246	126	88.6	68.0	46.0
Max	365	548	491	833	790	981	766	664	551	475	308	153
(WY)	(1990)	(2004)	(1979)	(1979)	(2003)	(1975)	(1987)	(1996)	(1981)	(2001)	(1977)	(1996)
Min	5.27	10.7	37.6	47.5	89.7	96.0	74.8	38.9	16.9	12.2	6.32	5.21
(WY)	(1992)	(1999)	(1998)	(1977)	(2002)	(1988)	(1986)	(1976)	(1999)	(1988)	(1987)	(1999)

DISCHARGE SUMMARY STATISTICS

	Water Years 1974 - 2008	
Annual mean	190	
Highest annual mean	318	1979
Lowest annual mean	76.5	1988
Highest daily mean	6,380	Apr 5, 1977
Lowest daily mean	2.2	Sep 26, 1999
Annual seven-day minimum	2.8	Sep 22, 1999
Maximum peak flow	^a 10,700	Jul 8, 2001
Maximum peak stage (ft)	^b 18.64	Apr 5, 1977
Instantaneous low flow	1.7	Sep 27, 1999
Annual runoff (cfsm)	1.51	
Annual runoff (inches)	20.53	
10 percent duration	438	
50 percent duration	87	
90 percent duration	12	

^a From slope-conveyance measurement of peak flow.

^b Site and datum then in use.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: June 1974 to October 1976, January 1977 to September 1978.

WATER TEMPERATURE: November 1974 to May 1975, October 1975 to October 1977; December 1977 to May 1981.

SUSPENDED SEDIMENT RECORDS: June 1974 to September 1978.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 916 microsiemens, July 27, 1976; minimum daily, 54 microsiemens, May 19, 1975.

WATER TEMPERATURE: Maximum, 30.5°C, July 20, 1977; minimum, 0.0°C on several days during most winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 2,670 mg/L, Oct. 8, 1976; minimum daily mean, 0 mg/L, May 27, 28, June 3, 1977.

SEDIMENT LOAD: Maximum daily, 16,900 tons, Apr. 4, 1977; minimum daily, 0 ton, May 27, 28, June 3, 1977.

03202900 GUYANDOTTE RIVER NEAR JUSTICE, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°36'25", long 81°47'25" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, on right bank
0.6 mi upstream from Cub Creek, 4.8 mi upstream from Little Huff Creek, 5.4 mi upstream from Justice, and 6.6 mi downstream from Clear Fork.

DRAINAGE AREA.--512 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1962 to September 1968 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 969.35 ft above NAVD 88 (VERTCON conversion of 970.00 ft above NGVD 29, unadjusted).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1963 - 1968		
Annual mean	736	
Highest daily mean	25,700	Mar 12, 1963
Lowest daily mean	24	Sep 14, 1964
Annual seven-day minimum	25	Jan 28, 1966
Maximum peak flow	^a 38,000	Mar 12, 1963 (^b 27.00 ft stage)
Instantaneous low flow	24	Sep 13, 14, 1964
10 percent duration	1,800	
50 percent duration	279	
90 percent duration	51	

^a From rating curve extended above 5,000 ft³/s on basis of slope-area measurement of peak flow.

^b From floodmarks.

03202915 GUYANDOTTE RIVER BELOW R.D. BAILEY DAM, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°35'53", long 81°49'46" referenced to North American Datum of 1927, Mingo County, WV, Hydrologic Unit 05070101, on right bank, 500 ft upstream from Little Huff Creek, 2,500 ft downstream from R.D. Bailey Dam, 0.5 mi northeast of Justice, and at river mile 111.6.

DRAINAGE AREA.--535 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.—November 1978 to September 1982 (daily discharge and annual maxima), October 1982 to September 1986 (daily mean gage height and annual maxima), October 1986 to September 1991 (daily discharge and annual maxima), October 1991 to September 1993 (daily mean gage height and annual maxima), October 1993 to September 2000 (annual maxima), October 2000 to September 2008 (annual maximum gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 879.32 ft above NAVD 88 (VERTCON conversion of 880.00 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--8 years (water years 1980-82, 1987-91), 778 ft³/s, 19.75 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft³/s, June 22, 1979, gage height, 13.90 ft; no flow part of June 28, 1982 (gates closed); minimum daily discharge, 34 ft³/s, Nov. 1, 1987; minimum gage height observed, 1.91 ft, Aug. 30, 1983 (gates closed), but may have been less Sept. 14, 30, 1983 (gates closed).

03203000 GUYANDOTTE RIVER AT MAN, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°44'25", long 81°52'37" referenced to North American Datum of 1927, Logan County, WV, Hydrologic Unit 05070101, on right bank at downstream side of highway bridge at Man, 500 ft upstream from Buffalo Creek, and 0.7 mi downstream from Huff Creek, and at mile 93.4.

DRAINAGE AREA.--758 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1929 to September 1962 (daily discharge and peaks), October 1963 to September 2000 (annual maxima), October 2000 to September 2008 (annual maximum gage height). Prior to October 1959, published as Guyandot River at Man.

REVISED RECORDS.--WDR WV-97-1: 1957(M), Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 709.85 ft above NAVD 88 (710.55 ft above NGVD 29). Prior to July 3, 1934, nonrecording gage at same site and datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 12, 1963 reached a stage of 24.78 ft, discharge, 49,000 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1929 - 1962		
Annual mean	984	
Highest daily mean	31,300	Mar 3, 1934
Lowest daily mean	3.2	Oct 6, 1930
Annual seven-day minimum	4.0	Oct 2, 1930
Maximum peak flow	^a 40,000	Mar 3, 1934
Maximum peak stage (ft)	22.25	Jan 29, 1957
Instantaneous low flow	3.0	Oct 6, 1930
10 percent duration	2,400	
50 percent duration	390	
90 percent duration	51	

^a From rating curve extended above 20,000 ft³/s.

03203600 GUYANDOTTE RIVER AT LOGAN, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°50'32", long 81°58'34" referenced to North American Datum of 1927, Logan County, WV, Hydrologic Unit 05070101, on right bank 200 ft downstream from Midelburg Bridge at Logan, 0.8 mi downstream from Dingess Run, 1.1 mi upstream from Island Creek, and at mile 81.0.

DRAINAGE AREA.--833 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1960 to September 1962 (annual maxima), October 1962 to September 1974 (daily discharge and peaks), October 1974 to September 2008 (daily discharge and annual maxima). Gage-height records collected in this vicinity since November 1915 are contained in reports of National Weather Service.

REVISED RECORDS.--WDR WV-82-1: Drainage area. WDR WV-94-1: 1993.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 639.79 ft above NAVD 88 (640.50 ft above NGVD 29). Datum published incorrectly as 640.00 ft above NGVD 29, water years 1963-93. Prior to Oct. 1, 1962, at datum 1.32 ft lower.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Records good. Flow regulated since February 1980 by R. D. Bailey Lake at mile 112. Unregulated statistics of monthly mean data and summary statistics for water years 1963-1979 are also published.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1963 - 1979, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	427	739	1,491	1,995	1,984	2,606	1,921	1,398	796	462	493	319
Max	1,462	2,111	3,582	5,381	5,021	5,732	3,891	2,471	3,578	1,592	2,107	1,142
(WY)	(1977)	(1978)	(1973)	(1974)	(1972)	(1975)	(1977)	(1975)	(1979)	(1979)	(1972)	(1966)
Min	48.8	69.0	67.5	125	857	813	526	362	171	122	90.1	83.2
(WY)	(1964)	(1966)	(1966)	(1966)	(1968)	(1969)	(1963)	(1964)	(1970)	(1964)	(1964)	(1965)

DISCHARGE SUMMARY STATISTICS		
Water Years 1963 - 1979		
Annual mean	1,217	
Highest annual mean	1,936	1979
Lowest annual mean	570	1969
Highest daily mean	40,800	Mar 12, 1963
Lowest daily mean	34	Sep 17, 1964
Annual seven-day minimum	41	Sep 13, 1964
Maximum peak flow	^a 55,000	Mar 12, 1963 (34.98 ft stage)
Instantaneous low flow	33	Sep 17, 1964
10 percent duration	2,560	
50 percent duration	602	
90 percent duration	110	

^a From rating curve extended above 26,000 ft³/s on basis of slope-area measurements at gage heights 25.60 ft and 34.98 ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1980 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	407	727	1,018	1,487	2,021	2,087	1,892	1,587	865	558	402	299
Max	2,211	2,754	2,255	3,267	4,250	4,370	5,213	3,889	3,430	1,852	1,108	891
(WY)	(1990)	(2004)	(1992)	(1994)	(1994)	(1993)	(1987)	(1996)	(1981)	(2001)	(2000)	(2003)
Min	162	98.9	235	375	543	449	354	537	150	120	89.1	70.2
(WY)	(1999)	(1988)	(1998)	(2000)	(2002)	(1988)	(1986)	(2006)	(1999)	(1988)	(1987)	(1999)

DISCHARGE SUMMARY STATISTICS	
Water Years 1980 - 2008	
Annual mean	1,108
Highest annual mean	1,712 2003
Lowest annual mean	432 1988
Highest daily mean	17,700 Apr 15, 2007
Lowest daily mean	48 Jul 10, 1988 ^a
Annual seven-day minimum	51 Sep 14, 1999
Maximum peak flow	27,200 May 7, 1984
Maximum peak stage (ft)	26.66 Apr 15, 2007
Instantaneous low flow	45 Oct 26, 1991
10 percent duration	2,840
50 percent duration	593
90 percent duration	152
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	39.8
7 day 10 yr low flow	45.0
30 day 5 yr low flow	69.8
1 day 3 yr bio-based low flow	39.4
4 day 3 yr bio-based low flow	42.8
10 percent duration	2,450
50 percent duration	548
90 percent duration	99.8
EPA harmonic mean	264

^a Also Aug. 18, 1988.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to November 1976.

WATER TEMPERATURE: October 1975 to September 1976.

SUSPENDED SEDIMENT RECORDS: August 1975 to September 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 682 microsiemens, July 26, 1976; minimum daily, 123 microsiemens, Feb. 18, 1976.

WATER TEMPERATURE: Maximum daily, 32.0°C, July 15, Aug. 9, 1976; minimum daily, -1.0°C, Dec. 23-25, 1975.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,750 mg/L, Nov. 13, 1975; minimum daily mean, 5 mg/L, Nov. 4, 1975, Mar. 8, June 6, 1976.

SEDIMENT LOAD: Maximum daily, 25,600 tons, Nov. 13, 1975, minimum daily, 2.7 tons, July 23, 27, 1976.

03203670 WHITMAN CREEK AT WHITMAN, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°48'28", long 82°01'42" referenced to North American Datum of 1927, Logan County, WV, Hydrologic Unit 05070101, on right bank 75 ft upstream from abandoned bridge off Secondary State Route 9/1, 0.8 mi south of Whitman, and at mile 2.0.

DRAINAGE AREA.--10.9 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1969 to September 1977 (daily discharge and annual maxima).

GAGE.--Water-stage recorder. Concrete control since Sept. 11, 1969. Datum of gage is approximately 759.28 ft above NAVD 88 (VERTCON conversion of 760 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

	Water Years 1969 - 1977	
Annual mean	13.9	
Highest daily mean	380	Aug 14, 1977
Lowest daily mean	0.00	(a)
Annual seven-day minimum	0.00	Sep 8, 1971
Maximum peak flow	^b 1,420	Aug 14, 1977 (6.66 ft stage)
Instantaneous low flow	0.00	(a)
10 percent duration	35	
50 percent duration	5.5	
90 percent duration	0.10	

^a No flow several days each year.

^b From rating curve extended above 100 ft³/s by step-backwater method.

03203700 ISLAND CREEK AT LOGAN, WV

Guyandotte Basin
Upper Guyandotte Subbasin

LOCATION.--Lat 37°50'50", long 82°00'30" referenced to North American Datum of 1927, Logan County, WV, Hydrologic Unit 05070101, at C & O Railroad bridge, 150 ft downstream from Copperas Mine Fork, 0.5 mi upstream from Coal Branch, and 1.0 mi upstream from Logan.

DRAINAGE AREA.--103 mi².

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to November 1976, March to September 1977.

pH: April to November 1976.

WATER TEMPERATURE: April to November 1976, March to September 1977.

TURBIDITY: October 1975 to November 1976.

SUSPENDED SEDIMENT RECORDS: March to September 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,970 microsiemens, Aug. 6, 1976; minimum daily, 102 microsiemens, Jan. 11, 1976.

pH: Maximum daily, 8.2 units, Oct. 7, 1976; minimum daily, 6.8 units, Apr. 12, 1976.

WATER TEMPERATURE: Maximum daily, 33.0°C, July 15, 1976; minimum daily, 8.0°C, Feb. 23, 1977.

TURBIDITY: Maximum daily, 200 JTU, Sept. 29, 30, Oct 1, 2, 6, 1976; minimum daily, 2 JTU, Dec. 6, 8, 10, 1975, Jan. 14, 31, July 22, Aug. 19, 1976.

SEDIMENT CONCENTRATION: Maximum daily mean, 2,810 mg/L, Apr. 4, 1977; minimum daily mean, 16 mg/L, Mar. 9, 1977.

SEDIMENT LOAD: Maximum daily, 11,500 tons, Apr. 4, 1977; minimum daily, 1.7 tons, June 7, July 14, 1977.

03204000 GUYANDOTTE RIVER AT BRANCLAND, WV

Guyandotte Basin
Lower Guyandotte Subbasin

LOCATION.--Lat 38°13'15", long 82°12'10" referenced to North American Datum of 1927, Lincoln County, WV, Hydrologic Unit 05070102, on right bank at upstream side of highway bridge, opposite mouth of Fourmile Creek, and at mile 35.3.

DRAINAGE AREA.--1,224 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1915 to September 1917 (daily discharge and annual maxima, monthly discharge only for some periods published in WSP 1305), October 1917 to September 1921 (daily mean gage height and annual maxima), October 1921 to September 1922 (annual maxima), January 1929 to September 1974 (daily discharge and peaks, monthly discharge only for January to March 1929 published in WSP 1305), October 1974 to September 1995 (daily discharge and annual maxima), October 1995 to September 1999 (annual maximum gage height), October 1999 to September 2000 (annual maxima), October 2000 to September 2008 (annual maximum gage height). Prior to October 1959, published as Guyandot River at Branchland.

REVISED RECORDS.--WSP 853: 1918(M). WSP 1335: 1916-17, 1929-30 1932-35. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 548.07 ft above NAVD 88 (548.70 ft above NGVD 29; 547.91 ft above COE 12). Prior to June 20, 1932, nonrecording gage, and June 20, 1932 to Oct. 24, 1968, water-stage recorder at site 20 ft downstream at same datum. Oct. 1, 1942 to Jan. 23, 1969, auxiliary nonrecording gage, and Jan. 24, 1969 to Dec. 12, 1986, auxiliary water-stage recorder at site 4.0 mi upstream at datum 4.99 ft higher.

REMARKS--Water-discharge records in ft³/s, stage readings in ft. Flow regulated since February 1980 by R.D. Bailey Dam at mile 112.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--53 years (water years 1916, 1917, 1929-79), 1,649 ft³/s.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--Maximum discharge, 44,500 ft³/s, Mar. 13, 1963, gage height, 43.83 ft; minimum, 3.6 ft³/s, Oct. 25, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood, probably in 1907, reached a stage of 44 ft, from floodmarks, discharge, 43,500 ft³/s.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1980 - 1995, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	557	967	1,656	2,144	3,292	3,293	2,679	2,323	1,190	603	434	351
Max	3,000	2,553	3,321	5,621	6,884	6,580	7,513	5,255	4,403	2,173	1,025	978
(WY)	(1990)	(1980)	(1992)	(1994)	(1994)	(1994)	(1987)	(1989)	(1981)	(1980)	(1994)	(1989)
Min	200	157	558	629	1,094	864	481	876	227	157	131	166
(WY)	(1993)	(1988)	(1981)	(1981)	(1988)	(1988)	(1986)	(1991)	(1988)	(1988)	(1987)	(1985)

DISCHARGE SUMMARY STATISTICS

Water Years 1980 - 1995		
Annual mean	1,615	
Highest annual mean	2,634	1994
Lowest annual mean	643	1988
Highest daily mean	20,800	Mar 28, 1994
Lowest daily mean	77	Aug 19, 1988
Annual seven-day minimum	87	Aug 14, 1988
Maximum peak flow	22,700	May 8, 1984 (31.42 ft stage)
Instantaneous low flow	75	Aug 19, 1988
10 percent duration	4,230	
50 percent duration	816	
90 percent duration	199	

Climatic Years 1930 – 2002 (Wiley, 2006)	
1 day 10 yr low flow	36.5
7 day 10 yr low flow	40.1
30 day 5 yr low flow	70.9
1 day 3 yr bio-based low flow	30.9
4 day 3 yr bio-based low flow	35.4
10 percent duration	3,930
50 percent duration	729
90 percent duration	113
EPA harmonic mean	306

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to November 1976, February to September 1977.

WATER TEMPERATURE: March to December 1976, February to September 1977.

TURBIDITY: October 1975 to December 1976.

SUSPENDED SEDIMENT RECORDS: March 1976 to September 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 845 microsiemens, Aug. 27, 1976; minimum daily, 108 microsiemens, Feb. 11, 1977.

WATER TEMPERATURE: Maximum daily, 32.0°C, July 14, 1977; minimum daily, 1.0°C several days in February 1977.

TURBIDITY: Maximum daily, 200 JTU, Mar. 21, Aug. 15, 1976; minimum daily, 1 JTU on several days in 1976.

SEDIMENT CONCENTRATION: Maximum daily mean, 3,250 mg/L, Dec. 9, 1976; minimum daily mean, 5 mg/L, Oct. 24, 1976, July 17, 20, 1977.

SEDIMENT LOAD: Maximum daily, 205,000 tons, Apr. 5, 1977; minimum daily, 2.3 tons, July 20, 1977.

03204200 GUYANDOTTE RIVER AT BARBOURSVILLE, WVGuyandotte Basin
Lower Guyandotte Subbasin

LOCATION.--Lat 38°24'56", long 82°17'44" referenced to North American Datum of 1927, Cabell County, WV, Hydrologic Unit 05070102, at bridge on U.S. Highway 60, at Barboursville.

DRAINAGE AREA.--1,309 mi².**WATER-QUALITY RECORDS**

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to April 1977.

WATER TEMPERATURE: June 1976 to April 1977.

TURBIDITY: October 1975 to April 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 720 microsiemens, Sept. 3, 1976; minimum daily, 120 microsiemens, Jan. 3, 1976.

WATER TEMPERATURE: Maximum daily, 28.5°C, July 28, 1976; minimum daily, 0.0°C on many days during winter 1976-77.

TURBIDITY: Maximum daily, 200 JTU, Apr. 5-7, 1977; minimum daily, 1 JTU, Jan. 2, 6, 1977.

03204205 UNNAMED TRIBUTARY TO BALLARD FORK NEAR MUD, WV

Guyandotte Basin
Lower Guyandotte Subbasin

LOCATION.--Lat 38°04'09", long 81°55'12" referenced to North American Datum of 1983, Boone County, WV, Hydrologic Unit 05070102, below valley fill, 300 ft upstream from Ballard Fork, 1 mi upstream from Spring Branch, and 3.4 mi southeast of Mud.

DRAINAGE AREA.--0.19 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1999 to September 2003 (daily discharge).

GAGE.--Water-stage recorder. Elevation of gage is approximately 987.33 ft above NAVD 88 (VERTCON conversion of 988 ft above NGVD 29, from GPS).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	0.13	0.17	0.25	0.21	0.41	0.27	0.28	0.41	0.42	0.37	0.29	0.17
Max	0.19	0.33	0.42	0.24	0.91	0.38	0.42	0.60	0.61	0.54	0.42	0.28
(WY)	(2003)	(2003)	(2003)	(2000)	(2003)	(2002)	(2002)	(2003)	(2003)	(2001)	(2003)	(2003)
Min	0.09	0.09	0.11	0.15	0.13	0.17	0.19	0.21	0.24	0.19	0.12	0.10
(WY)	(2001)	(2001)	(2002)	(2001)	(2002)	(2001)	(2001)	(2000)	(2002)	(2002)	(2002)	(2002)

DISCHARGE SUMMARY STATISTICS

Water Years 2000 - 2003

Annual mean	0.30
Highest annual mean	0.42 2003
Lowest annual mean	0.20 2002
Highest daily mean	3.7 Feb 17, 2003
Lowest daily mean	0.07 Nov 19, 1999 ^a
Annual seven-day minimum	0.08 Nov 18, 1999
Maximum peak flow	8.9 Jul 26, 2001 (1.84 ft stage)
Instantaneous low flow	0.05 Aug 29, 2003 ^b
Annual runoff (cfsm)	1.58
Annual runoff (inches)	21.40
10 percent duration	0.59
50 percent duration	0.19
90 percent duration	0.09

^a Also Nov. 20, 21, 1999, Sept. 17, 2003.

^b Also Sept. 3, 26, 29, 2003.

03204210 SPRING BRANCH NEAR MUD, WV

Guyandotte Basin
Lower Guyandotte Subbasin

LOCATION.--Lat 38°04'04", long 81°56'16" referenced to North American Datum of 1983, Boone County, WV, Hydrologic Unit 05070102, on road up Ballard Fork, 2.6 mi southeast of Mud, and at mile 0.8.

DRAINAGE AREA.--0.53 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1999 to September 2003 (daily discharge).

REVISED RECORDS.--WDR WV-02-1: 2001.

GAGE.--Water-stage recorder. Datum of gage is 896.71 ft above NAVD 88 (VERTCON conversion of 897.39 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	0.03	0.16	0.34	0.27	1.47	0.91	1.09	1.11	0.53	0.32	0.12	0.08
Max	0.08	0.44	0.88	0.56	3.93	1.89	1.99	1.39	1.09	0.61	0.21	0.27
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2003)	(2003)	(2003)	(2003)	(2003)
Min	0.00	0.00	0.04	0.13	0.11	0.55	0.36	0.36	0.05	0.06	0.00	0.01
(WY)	(2002)	(2002)	(2002)	(2000)	(2002)	(2000)	(2001)	(2000)	(2002)	(2002)	(2002)	(2002)

DISCHARGE SUMMARY STATISTICS

Water Years 2000 - 2003	
Annual mean	0.58
Highest annual mean	0.90 2003
Lowest annual mean	0.36 2001
Highest daily mean	29 Feb 16, 2003
Lowest daily mean	0.00 (a)
Annual seven-day minimum	0.00 Nov 27, 2000
Maximum peak flow	45 Feb 16, 2003 (3.86 ft stage)
Instantaneous low flow	0.00 (a)
Annual runoff (cfsm)	1.09
Annual runoff (inches)	14.83
10 percent duration	1.4
50 percent duration	0.14
90 percent duration	0.00

^a No flow many days most years.

03204215 BALLARD FORK NEAR MUD, WV

Guyandotte Basin
Lower Guyandotte Subbasin

LOCATION.--Lat 38°04'08", long 81°56'32" referenced to North American Datum of 1983, Boone County, WV, Hydrologic Unit 05070102, on road up Ballard Fork, about 0.3 mi downstream from Spring Branch, and 2.4 mi southeast of Mud.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1999 to September 2003 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 868.32 ft above NAVD 88 (VERTCON conversion of 869 ft above NGVD 29, from GPS).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	0.57	1.03	1.62	1.28	5.11	2.69	3.42	3.84	2.50	1.84	1.00	0.65
Max	1.34	2.63	3.70	2.24	13.8	4.34	4.72	5.59	4.48	2.83	1.42	1.53
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2003)	(2003)	(2003)	(2003)	(2003)
Min	0.16	0.17	0.41	0.70	0.74	1.83	1.69	1.70	0.74	0.74	0.35	0.32
(WY)	(2002)	(2001)	(2002)	(2000)	(2002)	(2001)	(2001)	(2000)	(2002)	(2002)	(2002)	(2001)

DISCHARGE SUMMARY STATISTICS

Water Years 2000 - 2003

Annual mean	2.21	
Highest annual mean	3.74	2003
Lowest annual mean	1.41	2001
Highest daily mean	77	Feb 16, 2003
Lowest daily mean	0.09	Sep 10, 2002
Annual seven-day minimum	0.11	Sep 6, 2002
Maximum peak flow	116	Feb 16, 2003 (2.83 ft stage)
Instantaneous low flow	0.07	Sep 8-10, 2002
Annual runoff (cfsm)	1.04	
Annual runoff (inches)	14.17	
10 percent duration	5.0	
50 percent duration	0.97	
90 percent duration	0.18	

03204220 MUD RIVER AT MUD, WV

Guyandotte Basin
Lower Guyandotte Subbasin

LOCATION.--Lat 38°05'40", long 81°58'42" referenced to North American Datum of 1983, Lincoln County, WV, Hydrologic Unit 05070102, at Mud, 0.8 mi downstream from Connelley Branch, 1.0 mi upstream from Berry Branch, and 1.5 mi upstream from Stonecoal Branch.

DRAINAGE AREA.--17.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1999 to September 2001 (daily discharge and annual maxima).

GAGE.--Water-stage recorder. Datum of gage is approximately 897.31 ft above NAVD 88 (VERTCON conversion of 898 ft above NGVD 29, from GPS).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3.56	3.00	11.4	7.74	23.1	16.9	22.4	31.0	19.1	19.4	11.2	6.87
Max	3.56	3.00	16.9	10.1	27.0	17.1	28.5	48.3	19.2	25.6	11.4	9.11
(WY)	(2001)	(2001)	(2000)	(2001)	(2000)	(2000)	(2000)	(2001)	(2001)	(2001)	(2001)	(2000)
Min	3.56	3.00	5.99	5.33	19.0	16.6	16.3	13.7	19.0	13.3	11.0	4.63
(WY)	(2001)	(2001)	(2001)	(2000)	(2001)	(2001)	(2001)	(2000)	(2000)	(2000)	(2000)	(2001)

DISCHARGE SUMMARY STATISTICS		
Water Years 2000 – 2001		
Annual mean	15.3	
Highest annual mean	15.3	2001
Lowest annual mean	15.3	2001
Highest daily mean	426	May 18, 2001
Lowest daily mean	2.0	Nov 1, 2000
Annual seven-day minimum	2.2	Oct 31, 2000
Maximum peak flow	1,100	May 18, 2001 (7.52 ft stage)
Instantaneous low flow	1.8	Nov 1, 2000
Annual runoff (cfsm)	0.902	
Annual runoff (inches)	12.25	
10 percent duration	28	
50 percent duration	7.8	
90 percent duration	3.2	

03204250 MUD RIVER AT PALERMO, WV

Guyandotte Basin
Lower Guyandotte Subbasin

LOCATION.--Lat 38°09'54", long 82°03'31" referenced to North American Datum of 1983, Lincoln County, WV, Hydrologic Unit 05070102.

DRAINAGE AREA.--51.3 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2003 to September 2008 (daily mean gage height).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 699.31 ft above NAVD 88 (VERTCON conversion of 700.0 ft above NGVD 29).

REMARKS.--Dam name: Upper Mud No. 2-A

Surface area: 306 acres

Normal Pool = 21.5 ft (Normal Storage = 4,490 acre-ft)

Top of Riser = 29.0 ft

Emergency Spillway = 42.5 ft

Top of Dam = 59.5 ft

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 28.74 ft, Apr. 15, 2007; minimum gage height, 21.50 ft, Sept. 9, 10, 2007.

03204500 MUD RIVER NEAR MILTON, WV

Guyandotte Basin
Lower Guyandotte Subbasin

LOCATION.--Lat 38°23'18", long 82°06'48" referenced to North American Datum of 1927, Cabell County, WV, Hydrologic Unit 05070102, on right bank 75 ft downstream from highway bridge, 700 ft downstream from Little Twomile Creek, 0.9 mi upstream from Charley Creek, 3.4 mi south of Milton, and at mile 25.3.

DRAINAGE AREA.--256 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1938 to September 1980 (daily discharge and peaks).

REVISED RECORDS.--WSP 1555: 1953, drainage area. WDR WV-97-1: 1938(M), 1939(P), 1940(P), 1942(M), 1943(P), 1944(M), 1945(P), 1946(M), 1947(M), 1948(P), 1949-51(M), 1962(P), 1963(M), 1965(M), 1967(M), 1968(M), 1974(M), 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 572.64 ft above COE 12. Prior to Nov. 21, 1957, nonrecording gage at site 75 ft upstream at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 2, 1997 reached a stage of 28.76 ft (from floodmarks), discharge, 19,000 ft³/s.

DISCHARGE SUMMARY STATISTICS		
Water Years 1938 - 1980		
Annual mean	290	
Highest daily mean	11,700	Dec 9, 1978
Lowest daily mean	0.01	Sep 8, 1957
Annual seven-day minimum	0.04	Sep 11, 1964
Maximum peak flow	20,700	Dec 9, 1978 (29.38 ft stage)
Instantaneous low flow	0.01	Sep 8, 1957
10 percent duration	690	
50 percent duration	76	
90 percent duration	3.2	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	0.11	
7 day 10 yr low flow	0.19	
30 day 5 yr low flow	0.95	
1 day 3 yr bio-based low flow	0.07	
4 day 3 yr bio-based low flow	0.09	
10 percent duration	727	
50 percent duration	78.8	
90 percent duration	3.3	
EPA harmonic mean	4.29	

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to December 1976, February to September 1977.

WATER TEMPERATURE: October 1975 to December 1976, February to September 1977.

SUSPENDED-SEDIMENT RECORDS: October 1975 to September 1977

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 245 microsiemens, July 21, 22, 1976; minimum daily, 60 microsiemens, Mar. 22, 1976.

WATER TEMPERATURE: Maximum daily, 30.0°C, July 11, 1976, July 14, 16-21, 1977; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 1,090 mg/L, Apr. 5, 1977; minimum daily mean, 0 mg/L, Nov. 7, 8, 1975.

SEDIMENT LOAD: Maximum daily, 17,600 tons, Apr. 5, 1977; minimum daily, 0.0 ton, Nov. 7, 8, 1975.

03205000 MUD RIVER AT YATES, WV

Guyandotte Basin
Lower Guyandotte Subbasin

LOCATION.--Lat 38°26'35", long 82°11'25" referenced to North American Datum of 1927, Cabell County, WV, Hydrologic Unit 05070102, 200 ft upstream from highway bridge at Yates, 1.2 mi downstream from Lower Creek.

DRAINAGE AREA.--318 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1915 to September 1917 (daily discharge).

GAGE.--Staff gage. Datum of gage is approximately 559.39 ft above NAVD 88 (VERTCON conversion of 560 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1915 - 1917		
Highest daily mean	5,860	Mar 14, 1917
Lowest daily mean	^e 3.0	Sep 1-6, 1917
Annual seven-day minimum	3.1	Aug 31, 1917
Maximum peak flow	5,980	Mar 14, 1917 (16.80 ft stage)
10 percent duration	1,320	
50 percent duration	116	
90 percent duration	19	

^e Estimated.

03205180 MUD RIVER AT BARBOURSVILLE, WV

Guyandotte Basin
Lower Guyandotte Subbasin

LOCATION.--Lat 38°24'58", long 82°17'42" referenced to North American Datum of 1927, Cabell County, WV, Hydrologic Unit 05070102, at bridge on Old Guyan River Road at Barboursville, and 200 ft upstream from mouth.

DRAINAGE AREA.--360 mi².

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to April 1977.

WATER TEMPERATURE: June to April 1977.

TURBIDITY: October 1975 to April 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 480 microsiemens, July 12, 1976; minimum daily, 67 microsiemens, Mar. 22, 1976.

WATER TEMPERATURE: Maximum daily, 28.0°C, July 12, 1976; minimum daily, 0.0°C on many days during winter periods.

TURBIDITY: Maximum daily, 350 JTU, July 16, 1976; minimum daily, 1 JTU, Jan. 6, 1977.

03206000 OHIO RIVER AT HUNTINGTON, WV

Middle Ohio-Raccoon Basin
Raccoon-Symmes Subbasin

LOCATION.--Lat 38°24'48", long 82°30'02" referenced to North American Datum of 1927, Cabell County, WV, Hydrologic Unit 05090101, on right bank at Sybene, 0.1 mile upstream from Fourpole Creek, 3.0 mi downstream from Symmes Creek, and at mile 311.5, measured downstream from Pittsburgh, PA.

DRAINAGE AREA.--55,850 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1934 to September 1968 (daily discharge and annual maxima), October 1968 to September 1986 (daily mean discharges greater than 50,000 ft³/s and annual maxima), October 1986 to September 1993 (daily mean gage height and annual maximum gage height), October 1993 to September 2008 (annual maximum gage height). Gage-height records collected at same site since 1913 are in reports of National Weather Service.

REVISED RECORDS.--WDR-US-2007: 1990-2006 gage height.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 489.16 ft above NAVD 88 (VERTCON conversion of 489.76 ft above NGVD 29, levels by U.S. Army Corps of Engineers). Prior to July 8, 1942, at datum 1.74 ft higher. Prior to Sept. 30, 1986, auxiliary water-stage recorder 4.7 mi upstream at datum 490.10 ft above COE 12.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft. Flow regulated by Ohio River system of locks, dams, and reservoirs upstream.

DISCHARGE SUMMARY STATISTICS

	Water Years 1934 - 1986	
Highest daily mean	1,000,000	Oct 21, 1977
Lowest daily mean	3,200	Sep 6, 1934 ^a
Annual seven-day minimum	4,930	Nov 4, 1953
Maximum peak flow	654,000	Jan 28, 1937
Maximum peak stage (ft)	^b 67.71	Jan 27, 1937
10 percent duration	197,000	
50 percent duration	62,000	
90 percent duration	13,200	

^a Also Sept. 13, Nov. 2, 1934, Oct. 3, 1935, Oct. 1, 1937.

^b Present datum (69.45 ft, datum then in use).

03206450 FOURPOLE CREEK NEAR HUNTINGTON, WV

Middle Ohio-Raccoon Basin
Raccoon-Symmes Subbasin

LOCATION.--Lat 38°21'45", long 82°23'37" referenced to North American Datum of 1927, Cabell County, WV, Hydrologic Unit 05090101, on left upstream bridge abutment on County Route 48/1, 5 miles southeast of Huntington.

DRAINAGE AREA.--4.02 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1998 to September 2008 (annual maxima).

GAGE.--Crest-stage gage. Elevation of gage is approximately 599.41 ft above NAVD 88 (VERTCON conversion of 600 ft above NGVD 29, from topographic map).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,540 ft³/s, Sept. 18, 2004, gage height, 12.05 ft.

03206500 FOURPOLE CREEK AT HUNTINGTON, WV

Middle Ohio-Raccoon Basin
Raccoon-Symmes Subbasin

LOCATION.--Lat 38°24'15", long 82°28'45" referenced to North American Datum of 1927, Cabell County, WV, Hydrologic Unit 05090101, at bridge on 11th Avenue in Huntington, 400 ft downstream from Right Fork, and at mile 1.75.

DRAINAGE AREA.--21.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1940 to September 1948 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is 520.23 ft above mean sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
	Water Years 1940 - 1948	
Annual mean	15.2	
Highest daily mean	1,490	Jun 2, 1946
Lowest daily mean	0.00	(a)
Annual seven-day minimum	0.00	Jul 26, 1940
Maximum peak flow	^b 3,770	Jun 2, 1946
Maximum peak stage (ft)	^c 24.87	Apr. 23, 1940
Instantaneous low flow	0.00	(a)
10 percent duration	29	
50 percent duration	1.6	
90 percent duration	0.00	

^a No flow on many days each year.

^b From rating curve extended above 1,700 ft³/s on basis of a slope-area measurement at gage height 9.05 ft.

^c Backwater from Ohio River.

03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW, WV

Middle Ohio-Raccoon Basin
Twelvepole Subbasin

LOCATION.--Lat 38°01'02", long 82°17'46" referenced to North American Datum of 1927, Wayne County, WV, Hydrologic Unit 05090102, on left bank 0.2 mi upstream from Maynard Branch, 0.9 mi downstream from McComas Branch, 1.5 mi upstream from Devilstrace Branch, 7.5 mi east of Dunlow, and at mile 60.2.

DRAINAGE AREA.--38.5 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1964 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-82-1: Drainage area. WDR WV-2004-1: 1991-2003(P). WDR WV-2005-1: 1967(M), 1970(P), 1974(P), 1977(M), 1979(M), 1989(M), 1990(P), 1992-94(P), 1995(M), 1996-98(P), 1999-2001(M), 2002-04(P).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 709.29 ft above NAVD 88 (VERTCON conversion of 710.00 ft above NGVD 29). Prior to Dec. 22, 1964, nonrecording gage at same site and datum.

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1965 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	13.1	32.4	63.0	75.3	95.5	105	91.6	64.4	36.7	14.9	11.2	11.8
Max	92.6	179	279	247	334	282	212	240	216	92.4	79.4	98.3
(WY)	(1990)	(2004)	(1979)	(1994)	(2003)	(1994)	(1987)	(1996)	(2003)	(1971)	(1977)	(2004)
Min	0.65	1.28	1.52	8.75	11.2	23.3	13.3	9.11	0.70	1.86	0.71	0.20
(WY)	(1992)	(2002)	(1966)	(2000)	(2002)	(1969)	(1986)	(1991)	(1966)	(1988)	(1967)	(1967)

DISCHARGE SUMMARY STATISTICS

Water Years 1965 - 2008	
Annual mean	51.0
Highest annual mean	98.3 1979
Lowest annual mean	18.9 1988
Highest daily mean	3,110 Dec 9, 1978
Lowest daily mean	0.00 Sep 15-17, 1998
Annual seven-day minimum	0.01 Sep 18, 1967
Maximum peak flow	^a 5,100 Dec 9, 1978 (15.84 ft stage)
Instantaneous low flow	0.00 Sep 15-17, 1998
Annual runoff (cfsm)	1.32
Annual runoff (inches)	17.99
10 percent duration	117
50 percent duration	18
90 percent duration	1.3

^a From rating curve extended above 1,300 ft³/s on basis of slope-area measurements at gage-heights 15.84 and 13.18 ft and slope-conveyance determination.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1974 to March 1976.

WATER TEMPERATURE: March 1974 to March 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 220 microsiemens, Mar. 14, 1975; minimum daily, 14 microsiemens, Aug. 16, 1974.

WATER TEMPERATURE: Maximum daily, 27.0°C, Sept. 3, 1975; minimum daily, 0.0°C, Mar. 24, 25, 1975, Feb. 2, 3, 1976.

03206790 EAST FORK TWELVEPOLE CREEK BELOW EAST LYNN DAM, WV

Middle Ohio-Raccoon Basin

Twelvepole Subbasin

LOCATION.--Lat 38°08'52", long 82°23'00" referenced to North American Datum of 1927, Wayne County, WV, Hydrologic Unit 05090102, on left bank, 800 ft downstream from Laurel Creek, 1,700 ft downstream from East Lynn Dam, 1.4 mi south of the town of East Lynn, 2.3 mi upstream from Camp Creek, 6.0 mi southeast of the town of Wayne, and at mile 41.7.

DRAINAGE AREA.--138 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1962 to September 1963 (daily discharge and annual maxima), October 1963 to September 1971 (daily discharge and peaks), October 1971 to September 1982 (daily discharge and annual maxima), October 1982 to September 1986 (daily mean gage height and annual maxima), October 1986 to September 2007 (annual maximum gage height. Prior to October 1967 published as East Fork Twelvepole Creek near East Lynn (03206800).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 609.30 ft above NAVD 88 (VERTCON conversion of 610.00 ft above NGVD 29, levels by US Army Cops of Engineers). Prior to Oct. 1, 1981, at datum 10.00 ft lower. Prior to Oct. 1, 1967, water-stage recorder at site 0.7 mi downstream.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow regulated since March 1972 by East Lynn Dam.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--20 years (water years 1962-82), 177 ft³/s, 17.42 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,960 ft³/s, Mar. 12, 1968, gage height 21.5 ft, present datum, from floodmarks; no flow, Sept. 10-27, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 3, 1939 reached a stage of about 27 ft, present datum, from floodmarks, discharge, 13,000 ft³/s, from slope-conveyance rating extension, highest since 1913. Flood of Feb. 28, 1962 reached a stage of 26.25 ft, present datum, from floodmarks, discharge, about 12,000 ft³/s.

03206800 EAST FORK TWELVEPOLE CREEK NEAR EAST LYNN, WV

Middle Ohio-Raccoon Basin
Twelvepole Subbasin

LOCATION.--Lat 38°09'15", long 82°23'05" referenced to North American Datum of 1927, Wayne County, WV, Hydrologic Unit 05090102, on left bank 0.7 mi upstream from Lynn Creek, 0.9 mi downstream from Laurel Creek, 1.5 mi south of East Lynn, 8.5 mi upstream from confluence of East and West Forks, and at mile 41.0.

DRAINAGE AREA.--139 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1962 to September 1963 (daily discharge and annual maxima), October 1963 to September 1967 (daily discharge and peaks), October 1968 to September 1971 (peaks only).

GAGE.--Water-stage recorder. Datum of gage is 599.30 ft above NAVD 88 (VERTCON conversion of 600.00 ft above NGVD 29). Records for October 1968 to September 1971 are from East Fork Twelvepole Creek Below East Lynn Dam (03206790) 0.7 miles upstream at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Maximum discharge, 4,960 ft³/s, Mar. 12, 1968, gage height 31.50 (at site 0.7 mi upstream).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 3, 1939 reached a stage of about 35 ft (from profile based on floodmarks), discharge, 13,000 ft³/s, from slope-conveyance rating extension, highest since 1913. Flood of Feb. 28, 1962 reached a stage of 34.76 ft (from floodmarks at site 400 ft upstream), discharge, about 12,000 ft³/s.

DISCHARGE SUMMARY STATISTICS

Water Years 1962 - 1967	
Annual mean	127
Highest daily mean	4,610 Mar 7, 1967
Lowest daily mean	0.00 Sep 10-27, 1964
Annual seven-day minimum	0.00 Sep 10, 1964
Maximum peak flow	^a 4,940 Mar 7, 1967 (30.13 ft stage)
Instantaneous low flow	0.00 Sep 10-27, 1964
10 percent duration	304
50 percent duration	24
90 percent duration	0.52

^a At site 0.7 mi upstream.

03206980 WEST FORK TWELVEPOLE CREEK ABOVE WAYNE AT ECHO, WV

Middle Ohio-Raccoon Basin
Twelvepole Subbasin

LOCATION.--Lat 38°10'52", long 82°28'33" referenced to North American Datum of 1927, Wayne County, WV, Hydrologic Unit 05090102, on left bank 200 ft downstream from Rocky Hollow, 0.4 mi downstream from Trace Fork, 3.0 mi southwest of Wayne, and at mile 4.3.

DRAINAGE AREA.--108 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1979 to June 1981 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 616.56 ft above NAVD 88 (VERTCON conversion of 617.26 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
	Water Years 1979 - 1981	
Highest daily mean	1,620	Dec 14, 1979
Lowest daily mean	1.4	Jul 2, 1980
Annual seven-day minimum	2.6	Jun 26, 1980
Maximum peak flow	^a 2,010	Jun 12, 1981 (12.02 ft stage)
10 percent duration	393	
50 percent duration	77	
90 percent duration	8.0	

^a From rating curve extended above 800 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to September 1980.

WATER TEMPERATURE: November 1979 to September 1980.

SUSPENDED-SEDIMENT RECORDS: October 1979 to June 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 193 microsiemens, June 20, 1980; minimum daily, 56 microsiemens, Dec. 14, 1979.

WATER TEMPERATURE: Maximum daily, 27.0°C, July 9, 20, 1980; minimum daily, 0.0°C several days in 1980.

SEDIMENT CONCENTRATION: Maximum daily mean, 4,450 mg/L, June 11, 1981; minimum daily mean, 1 mg/L, Jan. 2, 3, 1980, Nov. 6, 7, Dec. 17, 1980, Jan. 7, 9, 1981.

SEDIMENT LOAD: Maximum daily, 9,460 tons, June 12, 1981; minimum daily, 0.01 ton, Nov. 7, 1980.

03207000 TWELVEPOLE CREEK AT WAYNE, WV

Middle Ohio-Raccoon Basin
Twelvepole Subbasin

LOCATION.--Lat 38°13'05", long 82°26'55" referenced to North American Datum of 1927, Wayne County, WV, Hydrologic Unit 05090102, on right bank at bridge on State Highway 37 at Wayne, 0.75 mi downstream from confluence of East and West Forks, and at mile 31.2.

DRAINAGE AREA.--291 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1915 to September 1917 (daily discharge and annual maxima); October 1917 to September 1922 (annual maxima); February 1927 to September 1931, September 1946 to September 1954, and October 1955 to September 1966 (daily discharge and peaks). Gage height records collected at same site from 1924 to March 1949 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1335: 1916, 1917, 1930.

GAGE.--Water-stage recorder. Datum of gage is 575.83 ft above NAVD 88 (VERTCON conversion of 576.53 ft above NGVD 29). Prior to Sept. 30, 1931, chain gage, and Aug. 18, 1946 to Sept. 30, 1954, and Oct. 1, 1955 to Aug. 28, 1957, wire-weight gage, at same site and datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flood of June 30, 1928 reached a stage of 28.3 ft (reading provided by the National Weather Service), discharge, 14,000 ft³/s.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--24 years, 314 ft³/s.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 4, 1939 reached a stage of 31.03 ft, discharge, 22,000 ft³/s, from records provided by the National Weather Service, highest since 1913.

DISCHARGE SUMMARY STATISTICS		
Water Years 1915 - 1966		
Highest daily mean	13,000	Jun 30, 1928
Lowest daily mean	0.00	Oct 21, 1953 ^a
Annual seven-day minimum	0.00	Oct 21, 1953
Maximum peak flow	^b 15,900	Feb 28, 1962 (29.46 ft stage)
10 percent duration	815	
50 percent duration	92	
90 percent duration	5.0	

^a Also Oct. 22-27, Nov. 2, 1953, Nov. 4, 1959.

^b From rating curve extended above 9,500 ft³/s on basis of slope-area measurement of peak flow.

03207020 TWELVEPOLE CREEK BELOW WAYNE, WV

Middle Ohio-Raccoon Basin
Twelvepole Subbasin

LOCATION.--Lat 38°14'56", long 82°26'04" referenced to North American Datum of 1927, Wayne County, WV, Hydrologic Unit 05090102, on left bank just below highway bridge on secondary State Route 52/43, 1.9 mi northeast of Wayne, and at mile 26.5.

DRAINAGE AREA.--300 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1915 to September 1917 (daily discharge and annual maxima), October 1917 to September 1922 (annual maxima), February 1927 to September 1931, September 1946 to September 1954, and October 1955 to September 1966 (daily discharge and annual maximum discharge), October 1966 to September 1971 (daily discharge and peaks), October 1971 to September 1982 (daily discharge and annual maxima), October 1982 to September 2000 (annual maxima), October 2000 to September 2008 (annual maximum gage height). Records prior to October 1966 estimated as those for station Twelvepole Creek at Wayne (03207000), and estimated annual peak discharges for 1916-22, 1928-31, 1939, and 1947-66 published in WDR WV-98-1. Gage-height records collected at site 2.0 mi upstream from 1924 to March 1949 are contained in reports of the National Weather Service.

REVISED RECORDS.—WRD WV-79-1: 1978(m).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 559.33 ft above NAVD 88 (VERTCON conversion of 560.00 ft above NGVD 29). Oct. 1, 1966 to Dec. 15, 1966, nonrecording gage at present site and datum. Station Twelvepole Creek at Wayne (03207000) is at site 2.0 mi upstream at datum 16.53 ft higher (drainage area 291 mi²).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow regulated since March 1972 by East Lynn Dam.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--29 years (water years 1915-17, 1928-31, 1946-54, 1955-71), 319 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,900 ft³/s, Feb. 28, 1962, gage height not determined, estimated from Twelvepole Creek at Wayne (03207000), from rating curve extended above 9,500 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 27.88 ft, Dec. 9, 1978; no flow, Oct. 21-27, Nov. 2, 1953, Nov. 4, 1959, estimated from Twelvepole Creek at Wayne (03207000).

EXTREMES FOR PERIOD PRIOR TO REGULATION.-- Maximum discharge, 15,900 ft³/s, Feb. 28, 1962, gage height not determined, estimated from Twelvepole Creek at Wayne (03207000), from rating curve extended above 9,500 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 27.58 ft, Mar. 8, 1967; no flow, Oct. 21-27, Nov. 2, 1953, Nov. 4, 1959, estimated from Twelvepole Creek at Wayne (03207000).

03207057 BEECH FORK BELOW BEECH FORK DAM, WV

Middle Ohio-Raccoon Basin
Twelvepole Subbasin

LOCATION.--Lat 38°18'18", long 82°25'28" referenced to North American Datum of 1927, Wayne County, WV, Hydrologic Unit 05090102, on left bank 2,500 ft downstream from Beech Fork Dam, 1.7 ft southeast of Lavalette, and at mile 3.0.

DRAINAGE AREA.--79.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1976 to September 1982 (daily discharge and annual maxima), October 1982 to September 1986 (daily mean gage height and annual maxima), October 1993 to September 2002 (annual maxima).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 548.90 ft above NAVD 88 (VERTCON conversion of 549.54 ft above NGVD 29, levels by U.S. Army Corps of Engineers). Prior to June 12, 1979, at datum 0.46 ft higher.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft. Flow regulated since January 1978 by Beech Fork Lake.

DISCHARGE SUMMARY STATISTICS

Water Years 1976 - 1982

Annual mean	91.3	
Highest daily mean	1,700	Apr 5, 1977
Lowest daily mean	0.09	Jul 19, 1977
Annual seven-day minimum	0.48	Jul 15, 1977
Maximum peak flow	1,840	Apr 5, 1977 (10.29 ft stage)
Instantaneous low flow	0.02	Jul 20, 1977
10 percent duration	239	
50 percent duration	21	
90 percent duration	7.3	

03212558 PUNCHEONCAMP BRANCH AT LECKIE, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°20'37", long 81°24'42" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201, on right bank at Leckie, 1.5 mi northeast of Anawalt, and 1,500 ft upstream from mouth and Little Creek.

DRAINAGE AREA.--1.36 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (daily discharge).

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,779.00 ft above NAVD 88 (VERTCON conversion of 1,780.00 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1981 - 1982		
Highest daily mean	12	Jun 7, 1981
Lowest daily mean	0.05	Jan 6, 1981
Annual seven-day minimum	0.09	Jan 4, 1981
Maximum peak flow	^a 26	Feb 3, 1982 (2.48 ft stage)

^a From rating curve extended above 10 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT RECORDS: October 1980 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 841 mg/L, July 14, 1981; minimum daily mean, 1 mg/L many days during 1981.

SEDIMENT LOAD: Maximum daily, 17 tons, July 14, 1981; minimum daily, 0 ton many days during 1981.

03212567 FREEMAN BRANCH NEAR SKYGUSTY, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°16'28", long 81°29'15" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201, on right bank, 0.5 mi north of Monson, 8 mi southeast of Gary, and 1,000 ft upstream from mouth.

DRAINAGE AREA.--0.30 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (daily discharge).

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,959.57 ft above NAVD 88 (VERTCON conversion of 1,960.00 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1981 - 1982		
Highest daily mean	5.2	Jun 9, 1982
Lowest daily mean	0.00	(a)
Annual seven-day minimum	0.00	Oct 11, 1980
Maximum peak flow	^b 90	Jun 9, 1982 (3.02 ft stage)

^a No flow several days during 1981 and 1982.

^b On basis of slope area measurement of peak flow.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT RECORDS: October 1980 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 629 mg/L, July 14, 1981; minimum daily mean, 1 mg/L, Mar. 9, 10, 1981.

SEDIMENT LOAD: Maximum daily, 3.9 tons, July 14, 1981; minimum daily, 0 ton many days during 1981.

03212580 LEFT FORK SANDLICK CREEK AT ELBERT, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°20'08", long 81°31'39" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201, on right bank, 0.7 mi east of Elbert, and at mile 0.7.

DRAINAGE AREA.--1.78 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (daily discharge).

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,609.50 ft above NAVD 88 (VERTCON conversion of 1,610.00 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
	Water Years 1981 - 1982	
Highest daily mean	12	Jun 2, 1981
Lowest daily mean	0.05	Jan 6, 1981
Annual seven-day minimum	0.14	Jan 5, 1981
Maximum peak flow	^a 15	Jun 1, 1981 (2.45 ft stage)

^a From rating curve extended above 12 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT RECORDS: October 1980 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 98 mg/L, Sept. 3, 1981; minimum daily mean, 0 mg/L several days during 1981.

SEDIMENT LOAD: Maximum daily, 1.3 tons, June 1, 1981; minimum daily, 0 ton many days during 1981.

03212585 RIGHT FORK SANDLICK CREEK NEAR GARY, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°20'51", long 81°34'01" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201, on left bank, 1.5 mi southwest of Gary, and at mile 1.3.

DRAINAGE AREA.--1.21 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (daily discharge).

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,639.48 ft above NAVD 88 (VERTCON conversion of 1,640.00 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1981 - 1982		
Highest daily mean	16	Jun 7, 1981
Lowest daily mean	0.00	(a)
Maximum peak flow	^b 26	Jun 6, 1981 (2.49 ft stage)

^a No flow many days during 1981 and 1982.

^b From rating curve extended above 14 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT RECORDS: October 1980 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 529 mg/L, May 19, 1981; minimum daily mean, 0 mg/L, Feb. 1, 9, 1981.

SEDIMENT LOAD: Maximum daily, 13 tons, June 6, 1981; minimum daily, 0 ton many days during 1981.

03212600 TUG FORK AT WELCH, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°25'00", long 81°35'25" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201, on left upstream wingwall of bridge at intersection of U.S. Highway 52 and State Highways 16 and 102, 100 ft upstream from Little Indian Creek, and at mile 133.8.

DRAINAGE AREA.--85.9 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1978 to June 1981 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 1,295.20 ft above NAVD 88 (VERTCON conversion of 1,295.74 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1979 - 1981		
Highest daily mean	1,420	Jan 21, 1979
Lowest daily mean	6.6	Jan 18, 19, 1981
Annual seven-day minimum	7.5	Jan 15, 1981
Maximum peak flow	^a 2,150	Apr 30, 1980 (9.23 ft stage)
Instantaneous low flow	5.0	Nov 6, 1978
10 percent duration	215	
50 percent duration	58	
90 percent duration	19	

^a From rating curve extended above 1,700 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1979 to September 1980.

SUSPENDED-SEDIMENT RECORDS: October 1978 to June 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,020 microsiemens, June 22, 1980; minimum daily, 135 microsiemens, Jan. 21, 1979.
 SEDIMENT CONCENTRATION: Maximum daily mean, 4,530 mg/L, July 9, 1980; minimum daily mean, 1 mg/L several days during 1979, 1980, 1981.
 SEDIMENT LOAD: Maximum daily, 9,020 tons, Jan. 21, 1979; minimum daily, 0.02 ton, Nov. 4, 1978, Nov. 16, 1980.

03212700 ELKHORN CREEK AT MAITLAND, WV

Big Sandy Basin
 Tug Subbasin

LOCATION.--Lat 37°25'47", long 81°33'08" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201, on left downstream side of concrete arch bridge on county road at Maitland, 100 ft from U.S. Highway 52, 200 ft upstream from Mill Creek, 2.3 mi east of Welch, and at mile 2.4.

DRAINAGE AREA.--69.9 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1978 to September 1980 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 1,317.18 ft above NAVD 88 (VERTCON conversion of 1,317.73 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
	Water Years 1979 - 1980	
Highest daily mean	876	Apr 30, 1980
Lowest daily mean	14	Nov 22, 1978
Annual seven-day minimum	16	Nov 19, 1978
Maximum peak flow	^a 1,480	Jul 10, 1980 (6.79 ft stage)
Instantaneous low flow	12	Nov 13, 1978 ^b
10 percent duration	248	
50 percent duration	92	
90 percent duration	45	

^a From rating curve extended above 1,000 ft³/s.

^b Also Nov. 22, 23, 1978.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT RECORDS: November 1978 to July 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 3,560 mg/L, June 22, 1979; minimum daily mean, 2 mg/L, Nov. 12, 1978.

SEDIMENT LOAD: Maximum daily, 7,590 tons, June 22, 1979; minimum daily, 0.09 ton, Nov. 12, 1978.

03212703 ELKHORN CREEK TRIBUTARY AT WELCH, WV

Big Sandy Basin
 Tug Subbasin

LOCATION.--Lat 37°25'46", long 81°34'02" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201, on left bank, 0.1 mi southeast of Stevens Clinic Hospital, and at mile 0.2.

DRAINAGE AREA.--0.63 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (daily discharge).

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,359.45 ft above NAVD 88 (VERTCON conversion of 1,360.00 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
	Water Years 1981 - 1982	
Highest daily mean	6.8	Jun 6, 1981
Lowest daily mean	0.00	(a)
Maximum peak flow	^b 79	Jul 6, 1981 (2.84 ft stage)

^a No flow many days during 1981 and 1982.

^b From rating curve extended above 58 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT RECORDS: October 1980 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 5,350 mg/L, July 14, 1981; minimum daily mean, 0 mg/L several days during 1981.

SEDIMENT LOAD: Maximum daily, 312 tons, June 6, 1981; minimum daily, 0 ton many days during 1981.

03212750 TUG FORK AT WELCH, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°26'28", long 81°36'00" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201, on left bank at bridge in the Hemphill section of Welch, 20 ft downstream from Mod Branch, and at mile 131.5.

DRAINAGE AREA.--174 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1985 to September 1986 (daily discharge and annual maxima), October 1986 to September 1993 (daily discharge and peaks), October 1993 to September 1996 (annual maxima), October 1996 to September 2008 (daily discharge and peaks).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,267.46 ft above NAVD 88 (1,268.00 ft above NGVD 29).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1985 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	69.9	104	150	195	295	350	387	304	191	146	105	71.1
Max	189	406	389	591	813	741	1,206	648	387	505	322	165
(WY)	(1990)	(2004)	(2004)	(2004)	(2003)	(1993)	(1987)	(1989)	(2004)	(2001)	(2003)	(2003)
Min	34.3	35.6	35.5	42.6	69.1	83.3	155	128	74.1	56.6	39.3	39.1
(WY)	(2000)	(1999)	(2000)	(2000)	(2002)	(1988)	(1986)	(1988)	(1988)	(1988)	(1988)	(1987)

DISCHARGE SUMMARY STATISTICS

	Water Years 1985 – 2008	
Annual mean	198	
Highest annual mean	339	2004
Lowest annual mean	75.9	1988
Highest daily mean	4,300	Apr 25, 1987
Lowest daily mean	25	Oct 19, 1999
Annual seven-day minimum	27	Oct 22, 1999
Maximum peak flow	^a 13,100	May 2, 2002 (^b 22.09 ft stage)
Instantaneous low flow	17	Jan 10, 2001
Annual runoff (cfsm)	1.14	
Annual runoff (inches)	15.50	
10 percent duration	405	
50 percent duration	127	
90 percent duration	42	

^a From rating curve extended above 11,500 ft³/s.

^b From floodmarks.

03212980 DRY FORK AT BEARTOWN, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°23'43", long 81°48'10" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201, on left bank 20 ft upstream from bridge on State Highway 80/3, 0.4 mi upstream from Grapevine Branch, and at mile 7.1.

DRAINAGE AREA.--209 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1985 to September 1986 (daily discharge and annual maxima), October 1986 to September 1993 (daily discharge and peaks), October 1993 to September 1996 (annual maxima), October 1996 to September 2008 (daily discharge and peaks).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,055.40 ft above NAVD 88 (1,056.00 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1985 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	65.3	110	188	242	369	431	462	299	182	124	84.0	56.8
Max	347	378	572	631	1,098	1,033	1,455	799	545	564	345	221
(WY)	(1990)	(2004)	(1992)	(2004)	(2003)	(1993)	(1987)	(1989)	(2004)	(2001)	(2003)	(1989)
Min	22.4	23.6	28.8	62.0	72.0	93.7	110	104	39.3	28.2	22.4	26.9
(WY)	(1998)	(1999)	(1998)	(2001)	(2002)	(1988)	(1986)	(1988)	(1988)	(1988)	(1988)	(1985)

DISCHARGE SUMMARY STATISTICS		
Water Years 1985 – 2008		
Annual mean	220	
Highest annual mean	359	2004
Lowest annual mean	75.0	1988
Highest daily mean	6,580	Feb 16, 2003
Lowest daily mean	15	Oct 29, 1987 ^a
Annual seven-day minimum	17	Oct 26, 1999
Maximum peak flow	^b 15,900	May 2, 2002
	(^c 15.21 ft stage)	
Instantaneous low flow	13	Oct 30, 1987
Annual runoff (cfsm)	1.05	
Annual runoff (inches)	14.32	
10 percent duration	483	
50 percent duration	111	
90 percent duration	28	

^a Also Sept. 3, 1988.

^b From rating curve extended above 11,700 ft³/s.

^c From floodmarks.

03212985 DRY FORK AT AVONDALE, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°25'32", long 81°47'22" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201, at bridge on State Highway 80/2, 100 ft downstream from Mile Branch, 3.2 mi upstream from laeger, and at mile 3.5.

DRAINAGE AREA.--225 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1978 to June 1981 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 993.36 ft above NAVD 88 (VERTCON conversion of 993.98 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1979 - 1981		
Highest daily mean	6,810	Jan 21, 1979
Lowest daily mean	14	Oct 24, 1978
Annual seven-day minimum	16	Oct 19, 1978
Maximum peak flow	^a 10,900	Jan 21, 1979
Maximum peak stage	9.07	Jan 21, 1979
Instantaneous low flow	14	Oct 23, 24, 1978
10 percent duration	573	
50 percent duration	164	
90 percent duration	54	

^a From rating curve extended above 3,400 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT RECORDS: November 1978 to June 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 1,640 mg/L, Apr. 20, 1981; minimum daily mean, 0 mg/L, Jan. 4, 1981.
 SEDIMENT LOAD: Maximum daily, 32,200 tons, Jan. 21, 1979; minimum daily, 0 ton, Jan. 4, 1981.

03213000 TUG FORK AT LITWAR, WV

Big Sandy Basin
 Tug Subbasin

LOCATION.--Lat 37°29'08", long 81°50'38" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201, on left bank 200 ft downstream from War Branch, 0.5 mi downstream from Litwar, 2.2 mi northwest if laeger, 2.7 mi downstream from Dry Fork, and at mile 106.1.

DRAINAGE AREA.--504 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1930 to September 1984 (daily discharge and peaks), October 1984 to September 1986 (annual maxima).

REVISED RECORDS.--WSP 728: 1931. WSP 1335: 1930, 1931-35(M), 1937, 1943-46, 1947(M), 1948, 1949(P), 1950, 1952, 1953. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 935.71 ft above NAVD 88 (VERTCON conversion of 936.36 ft above NGVD 29). Prior to Oct. 16, 1942, nonrecording gage at highway bridge 0.5 mi upstream at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 2001 reached a stage of 13.17 ft, discharge, 19,000 ft³/s. Flood of May 2002 reached a stage of 23.72 ft, discharge, 28,000 ft³/s.

DISCHARGE SUMMARY STATISTICS

Water Years 1930 - 1984	
Annual mean	556
Highest daily mean	22,000 Apr 4, 1977
Lowest daily mean	11 Oct 3, 4, 7, 8, 1930
Annual seven-day minimum	12 Oct 2, 1930
Maximum peak flow	54,500 Apr 4, 1977 (27.37 ft stage)
Instantaneous low flow	11 Oct 3, 4, 7, 8, 1930
10 percent duration	1,270
50 percent duration	265
90 percent duration	59
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	27.7
7 day 10 yr low flow	31.0
30 day 5 yr low flow	46.4
1 day 3 yr bio-based low flow	27.0
4 day 3 yr bio-based low flow	29.5
10 percent duration	1,290
50 percent duration	272
90 percent duration	62.8
EPA harmonic mean	156

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to September 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 925 microsiemens, Sept. 9, 1980; minimum recorded, 205 microsiemens, July 11, 1980.

03213495 CRANE CREEK NEAR PANTHER, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°25'28", long 81°51'39" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201, on left bank 100 ft upstream from culvert on State Route 3/1, 4 mi southwest of laeger, and 200 ft upstream from mouth and Panther Creek.

DRAINAGE AREA.--0.54 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1980 to September 1982 (daily discharge).

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,159.39 ft above NAVD 88 (VERTCON conversion of 1,160.00 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS

Water Years 1981 - 1982

Highest daily mean	11	Jun 6, 1981
Maximum peak flow	72	Jun 6, 1981 (3.12 ft stage)
Instantaneous low flow	(a)	

^a Less than 0.01 ft³/s, Oct. 14-16, 21-24, 1980, Sept. 28-30, Oct. 1, 1981.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT RECORDS: October 1980 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 254 mg/L, June 6, 1981; minimum daily mean, 0 mg/L many days during 1981.

SEDIMENT LOAD: Maximum daily, 27 tons, June 6, 1981; minimum daily, 0 ton many days during 1981.

03213500 PANTHER CREEK NEAR PANTHER, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°26'44", long 81°52'16" referenced to North American Datum of 1983, McDowell County, WV, Hydrologic Unit 05070201, on left bank 200 ft downstream from Cub Branch, 2.1 mi upstream from Trace Fork, 3.0 mi southwest of Panther, and at mile 4.2.

DRAINAGE AREA.--31.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1946 to September 1986, and October 2002 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WSP 1505: 1955(P). WSP 1908: 1955(M), 1957(M). WDR WV-97-1: 1948(P), 1950(M), 1955(P), 1964-81(P).

GAGE.--Water-stage recorder. Datum of gage is approximately 1,049.36 ft above NAVD 88 (1,050 ft above NGVD 29, from topographic map).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1946 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	8.14	19.1	35.7	55.1	70.3	80.5	69.4	37.7	18.5	10.6	10.4	5.84
Max	65.7	83.1	115	179	241	280	146	136	127	58.9	72.5	59.6
(WY)	(1977)	(1978)	(1973)	(1957)	(2003)	(1955)	(1948)	(1958)	(1979)	(1956)	(1958)	(1966)
Min	0.14	0.24	0.65	1.90	9.66	18.3	9.76	6.98	1.31	1.05	0.61	0.18
(WY)	(1954)	(1954)	(1966)	(1966)	(1968)	(1984)	(1986)	(1957)	(1966)	(1959)	(1955)	(1946)

DISCHARGE SUMMARY STATISTICS

Water Years 1946 - 2008	
Annual mean	34.5
Highest annual mean	55.8 1979
Lowest annual mean	15.1 1969
Highest daily mean	2,300 Apr 4, 1977
Lowest daily mean	0.00 (a)
Annual seven-day minimum	0.01 Sep 16, 1946
Maximum peak flow	^b 14,700 May 2, 2002 (^c 16.57 ft stage)
Instantaneous low flow	0.00 (a)
Annual runoff (cfsm)	1.11
Annual runoff (inches)	15.11
10 percent duration	78
50 percent duration	12
90 percent duration	1.2
Climatic Years 1930 - 2002 (Wiley, 2006)	
1 day 10 yr low flow	0.05
7 day 10 yr low flow	0.15
30 day 5 yr low flow	0.63
1 day 3 yr bio-based low flow	0.00
4 day 3 yr bio-based low flow	0.00
10 percent duration	84.7
50 percent duration	12.7
90 percent duration	1.2
EPA harmonic mean	2.58

^a No flow several days in September 1946, August and September, 1955.

^b From rating curve extended above 2,800 ft³/s on basis of slope-area measurement.

^c From floodmarks.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1979 to September 1980.

WATER TEMPERATURE: May 1973 to September 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 3,120 microsiemens, Feb. 13, 1980; minimum recorded, 45 microsiemens, Apr. 27, 28, 1980.

WATER TEMPERATURE: Maximum recorded, 31.5°C, Aug. 25, 26, 27, 1975; minimum recorded, 0.0°C, Feb. 12, 1974.

03213620 TUG FORK AT VULCAN, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°33'06", long 82°07'28" referenced to North American Datum of 1927, Mingo County, WV, Hydrologic Unit 05070201, on right bank at highway bridge at Vulcan, 5.8 mi downstream from Knox Creek, 1.9 mi upstream from Peter Creek, and at mile 78.7.

DRAINAGE AREA.--778 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1985 to September 1985 (daily discharge and annual maxima), October 1985 to September 1993 (daily discharge and peaks).

GAGE.--Water-stage recorder. Datum of gage is 694.29 ft above NAVD 88 (VERTCON conversion of 695.00 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 2001 reached a stage of 17.00 ft, discharge, 19,500 ft³/s. Flood of May 2002 reached a stage of 34.78 ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1985 - 1993, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	338	430	907	993	1,628	1,729	1,592	1,117	569	275	211	212
Max	1,674	885	2,148	1,663	3,020	3,803	5,270	2,824	1,273	349	314	611
(WY)	(1990)	(1990)	(1992)	(1990)	(1990)	(1993)	(1987)	(1989)	(1989)	(1992)	(1992)	(1989)
Min	90.9	107	347	400	526	380	404	446	135	98.5	91.1	101
(WY)	(1986)	(1988)	(1988)	(1986)	(1988)	(1988)	(1986)	(1988)	(1988)	(1988)	(1988)	(1985)

DISCHARGE SUMMARY STATISTICS

Water Years 1985 - 1993	
Annual mean	848
Highest annual mean	1,171 1987
Lowest annual mean	313 1988
Highest daily mean	17,300 Apr 25, 1987
Lowest daily mean	63 Aug 19, 1988
Annual seven-day minimum	67 Aug 13, 1988
Maximum peak flow	33,300 Oct 17, 1989 (22.15 ft stage)
Instantaneous low flow	62 Aug 18, 19, 1988
Annual runoff (cfsm)	1.09
Annual runoff (inches)	14.81
10 percent duration	1,920
50 percent duration	419
90 percent duration	106

03213700 TUG FORK AT WILLIAMSON, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°40'23", long 82°16'49" referenced to North American Datum of 1927, Pike County, KY, Hydrologic Unit 05070201, on left bank at Williamson, 100 ft upstream from bridge on County Route 52/31, 0.8 mi downstream from Pond Creek, and at mile 56.5.

DRAINAGE AREA.--936 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1967 to September 2008 (daily discharge and peaks). Gage-height records collected in this vicinity since 1926 are contained in reports of National Weather Service.

REVISED RECORDS.--WDR WV-78-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 619.68 ft above NAVD 88 (620.45 ft above NGVD 29, corrected).

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Jan. 30, 1957, Mar. 12, 1963, and Mar. 7, 1967, reached stages of 43.6 ft, 44.5 ft, and 40.7 ft, respectively, at datum then in use, from readings by National Weather Service.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1968 - 2008, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	365	624	1,009	1,548	1,935	2,111	2,080	1,587	898	542	420	281
Max (WY)	2,059 (1990)	2,363 (1978)	3,631 (1973)	4,515 (1974)	5,198 (2003)	5,328 (1975)	5,745 (1987)	4,318 (1984)	3,263 (1979)	1,503 (2001)	1,419 (1972)	839 (1989)
Min (WY)	71.7 (1970)	113 (1970)	197 (2002)	279 (1981)	396 (2002)	448 (1988)	506 (1986)	429 (1976)	156 (1988)	119 (1988)	105 (1988)	85.7 (1999)

DISCHARGE SUMMARY STATISTICS		
Water Years 1968 - 2008		
Annual mean	1,112	
Highest annual mean	1,729	1979
Lowest annual mean	353	1988
Highest daily mean	74,000	Apr 5, 1977
Lowest daily mean	56	Sep 19, 1999
Annual seven-day minimum	60	Sep 22, 1999
Maximum peak flow	^a 94,000 (^b 52.56 ft stage)	Apr 5, 1977
Instantaneous low flow	52	Sep 27, 1999
Annual runoff (cfsm)	1.19	
Annual runoff (inches)	16.15	
10 percent duration	2,430	
50 percent duration	601	
90 percent duration	142	

^a From rating curve extended above 18,000 ft³/s, highest since 1875.

^b From floodmarks.

03213800 PIGEON CREEK NEAR LENORE, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°47'13", long 82°15'44" referenced to North American Datum of 1927, Mingo County, WV, Hydrologic Unit 05070201, at private bridge, 0.4 mi downstream from Hensley Big Branch, 1.5 mi southeast of Lenore, and at mile 6.1.

DRAINAGE AREA.--93.9 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1978 to September 1981 (daily discharge).

GAGE.--Water-stage recorder. Datum of gage is approximately 629.26 ft above NAVD 88 (VERTCON conversion of 630 ft above NGVD 29, from topographic map).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1979 - 1981		
Highest daily mean	6,660	Dec 9, 1978
Lowest daily mean	7.5	Sep 24-26, 1981
Annual seven-day minimum	7.8	Sep 24, 1981
Maximum peak flow	^a 9,440	Dec 9, 1978 (19.08 ft stage)
Instantaneous low flow	7.0	Sep 30, 1981
10 percent duration	282	
50 percent duration	56	
90 percent duration	13	

^a From rating curve extended above 1,000 ft³/s.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1981.

WATER TEMPERATURE: January 1980 to September 1981.

SUSPENDED-SEDIMENT RECORDS: February to November 1979, January 1980 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,200 microsiemens, Sept. 8, 1981; minimum daily, 128 microsiemens, June 7, 1981.

WATER TEMPERATURE: Maximum daily, 30.0°C, July 20, 21, 1980; minimum daily, 1.0°C several days in 1980 and 1981.

SEDIMENT CONCENTRATION: Maximum daily mean, 2,140 mg/L, June 22, 1979; minimum daily mean, 1 mg/L several days in 1981.

SEDIMENT LOAD: Maximum daily, 22,500 tons, June 22, 1979; minimum daily, 0.07 ton, Jan. 11, 16-18, 1981.

03214000 TUG FORK NEAR KERMIT, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°49'03", long 82°23'20" referenced to North American Datum of 1927, Mingo County, WV, Hydrologic Unit 05070201, on right bank 2.0 mi upstream from Wolf Creek, 3.0 mi upstream from Kermit, 3.0 mi downstream from Pigeon Creek, and at mile 38.1.

DRAINAGE AREA.--1,188 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1934 to September 1985 (daily discharge and peaks).

REVISED RECORDS.--WSP 953: 1934-41. WSP 1505: 1955. WDR WV-78-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 581.10 ft above NAVD 88 (VERTCON conversion of 581.82 ft above NGVD 29).

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of unknown date prior to 1915 reached a stage of about 43.3 ft.

DISCHARGE SUMMARY STATISTICS		
Water Years 1934 - 1985		
Annual mean	1,411	
Highest daily mean	78,000	Apr 5, 1977
Lowest daily mean	27	Oct 26, 1939
Annual seven-day minimum	28	Oct 21, 1939
Maximum peak flow	^a 104,000	Apr 6, 1977 (^b 52.91 ft stage)
Instantaneous low flow	23	Sep 14, 1939
10 percent duration	3,150	
50 percent duration	648	
90 percent duration	119	
Climatic Years 1930 – 2002 (Wiley, 2006)		
1 day 10 yr low flow	37.6	
7 day 10 yr low flow	41.1	
30 day 5 yr low flow	72.0	
1 day 3 yr bio-based low flow	33.9	
4 day 3 yr bio-based low flow	36.2	
10 percent duration	3,230	
50 percent duration	651	
90 percent duration	118	
EPA harmonic mean	298	

^a From rating curve extended above 29,000 ft³/s on basis of slope area measurements at gage heights 45.65 ft and 52.91 ft, highest since 1875.

^b From floodmarks.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1955 to September 1956.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 29.4°C, July 5, 1956; minimum, 1.7°C, several days January 1956.

03214500 TUG FORK AT KERMIT, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 37°50'14", long 82°24'32" referenced to North American Datum of 1927, Mingo County, WV, Hydrologic Unit 05070201, behind fire station, at Kermit, 0.8 mi downstream from Wolf Creek, and at mile 34.9.

DRAINAGE AREA.--1,280 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1915 to September 1917 (daily discharge and peaks), October 1917 to September 1918 (annual maxima), October 1918 to December 1920 (annual maximum gage-height), January 1929 to September 1934 (daily discharge and peaks), October 1934 to September 1985 (estimated annual maximum discharge), February 1985 to September 2008 (daily discharge and peaks).

REVISED RECORDS.--WDR WV-78-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 574.07 ft above NAVD 88 (574.77 ft above NGVD 29, corrected). Estimated annual discharge water years 1934-85 based on records for station Tug Fork near Kermit (03214000), drainage area 1,188 mi².

REMARKS.—Water-discharge records in ft³/s, stage readings in ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of unknown date prior to 1915 reached a stage of about 46.7 ft; rise of Jan. 30, 1957, was about 45 ft; rise of Mar. 13, 1963, was about 46 ft; rise of Apr. 6, 1977, was about 53.7 ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1916 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	410	721	1,304	1,951	2,725	3,278	2,572	1,855	1,009	667	519	339
Max	3,004	3,062	3,465	4,151	7,049	10,220	7,827	5,056	3,602	1,926	1,504	1,466
(WY)	(1990)	(1930)	(1992)	(1994)	(2003)	(1917)	(1987)	(1996)	(2004)	(2000)	(2000)	(2004)
Min	21.1	44.1	119	296	512	617	629	431	114	44.5	78.7	29.4
(WY)	(1931)	(1932)	(1931)	(1931)	(2002)	(1988)	(1986)	(1930)	(1930)	(1930)	(1930)	(1930)

DISCHARGE SUMMARY STATISTICS

Water Years 1916 – 2008	
Annual mean	1,441
Highest annual mean	2,277 1994
Lowest annual mean	476 1988
Highest daily mean	^a 34,300 Mar 5, 1917
Lowest daily mean	14 Oct 23, 1930
Annual seven-day minimum	18 Oct 5, 1930
Maximum peak flow	^b 35,300 Feb 17, 2003 (^c 46.29 ft stage)
Instantaneous low flow	^d 69 Aug 19, 1988
Annual runoff (cfs)	1.13
Annual runoff (inches)	15.30
10 percent duration	3,300
50 percent duration	712
90 percent duration	149

^a 78,000 ft³/s, Apr. 5, 1977, at Tug Fork near Kermit (03214000).

^b 104,000 ft³/s, Apr. 6, 1977, at Tug Fork near Kermit (03214000).

^c 52.91 ft, Apr. 6, 1977, at Tug Fork near Kermit (03214000), at different datum.

^d Instantaneous low flow prior to 1985, undetermined.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1946 to September 1977, January to June 1978, January 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 32.0°C, July 29, 1949; minimum daily, -0.5°C, Dec. 31, 1976, Jan. 1, 2, 8-13, 24, 1977.

03214900 TUG FORK AT GLENHAYES, WV

Big Sandy Basin
Tug Subbasin

LOCATION.--Lat 38°00'20", long 82°30'53" referenced to North American Datum of 1927, Wayne County, WV, Hydrologic Unit 05070201, on left bank 2,000 ft upstream from Lost Creek, 300 ft downstream from Rockcastle Creek, 1.0 mi southeast of Glenhayes, and at mile 10.3.

DRAINAGE AREA.--1,507 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1976 to September 1982 (daily discharge and peaks), October 1982 to September 1983 (daily mean gage height and annual maxima), October 1990 to September 1992 (daily discharge and annual maxima), October 1992 to September 1995 (annual maxima).

REVISED RECORDS.--WDR WV-78-1: 1977, Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 535.84 ft above NAVD 88 (VERTCON conversion of 536.57 ft above NGVD 29). Prior to Oct. 1, 1990 at site 1,600 ft downstream at same datum.

REMARKS.--Water-discharge records in ft³/s, stage readings in ft.

STATISTICS OF MONTHLY MEAN DISCHARGE FOR WATER YEARS 1976 - 1992, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	705	998	2,398	2,823	2,763	3,726	3,058	1,733	1,675	919	901	530
Max	1,892	2,912	4,995	6,312	4,035	5,052	5,985	3,737	4,459	2,402	2,519	1,063
(WY)	(1977)	(1978)	(1979)	(1979)	(1979)	(1991)	(1977)	(1978)	(1979)	(1979)	(1977)	(1982)
Min	157	200	544	501	1,420	2,275	1,583	549	434	310	355	246
(WY)	(1992)	(1982)	(1981)	(1981)	(1992)	(1981)	(1982)	(1976)	(1976)	(1976)	(1976)	(1991)

DISCHARGE SUMMARY STATISTICS

Water Years 1976 - 1992	
Annual mean	1,903
Highest annual mean	2,870 1979
Lowest annual mean	1,432 1981
Highest daily mean	45,800 Apr 6, 1977
Lowest daily mean	123 Nov 8-10, 1991
Annual seven-day minimum	125 Nov 4, 1991
Maximum peak flow	^a 48,000 Apr 6, 1977 (^a 44.00 ft stage)
Instantaneous low flow	120 Nov 9, 10, 1991
Annual runoff (cfsm)	1.26
Annual runoff (inches)	17.16
10 percent duration	4,190
50 percent duration	1,140
90 percent duration	255

^a At site 1,600 ft downstream at same datum.

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1977 to September 1980.

WATER TEMPERATURE: October 1978 to September 1980.

SUSPENDED-SEDIMENT RECORDS: March 1977 to September 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily observed, 848 microsiemens, June 29, 1980; minimum daily, 93 microsiemens, Dec. 9, 1978.

WATER TEMPERATURE: Maximum daily observed, 33.0°C, Aug. 3, 10, 1980; minimum daily observed, 0.0°C, Feb. 6, 1979.

SEDIMENT CONCENTRATION: Maximum daily mean, 7,930 mg/L, July 16, 1979; minimum daily mean, 1 mg/l, Nov. 7, 8, 14, 15, 1978.

SEDIMENT LOAD: Maximum daily, 320,000 tons, Apr. 5, 1977; minimum daily, 0.42 ton, Nov. 7, 1978.

Groundwater Levels

390220080034901 Local number Bar-0017

LOCATION.--Lat 39°02'20", long 80°03'49" referenced to North American Datum of 1927, Barbour County, WV, Hydrologic Unit 05020001, in Audra State Park.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.-- Drilled unused water-table well, diameter 8 in., depth 200 ft, cased with steel to 20 ft.

DATUM.--Land-surface datum is approximately 1,829.44 ft above NAVD 88 (VERTCON conversion of 1,830 ft above NGVD 29). Measuring point: Top of casing 0.65 ft below land-surface datum.

PERIOD OF RECORD.—August 1971 to November 1974 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 71.59 ft below land-surface datum, Apr. 30, 1973; lowest, 95.38 ft below land-surface datum, Sept. 6, 1971.

390228080035901 Local number Bar-0019

LOCATION.--Lat 39°02'28", long 80°03'59" referenced to North American Datum of 1927, Barbour County, WV, Hydrologic Unit 05020001.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Diameter 6 in., depth 75 ft.

PERIOD OF RECORD.--March 1954 to February 1957 (weekly water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 22.50 ft below land-surface datum, Jan. 31, 1955; lowest, 30.20 ft below land-surface datum, June 18, 1956.

391435080015701 Local number Bar-0127

LOCATION.--Lat 39°14'35", long 80°01'57" referenced to North American Datum of 1927, Barbour County, WV, Hydrologic Unit 05020001.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers. Diameter 6 in., depth 105 ft.

PERIOD OF RECORD.--October 1953 to December 1968 (weekly water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.75 ft below land-surface datum, Dec. 7, 1957; lowest, 62.33 ft below land-surface datum, Dec. 5, 1953.

391920078032201 Local number Ber-0840

LOCATION.--Lat 39°19'19.9", long 78°03'21.8" referenced to North American Datum of 1983, Berkeley County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Beekmantown Group. Diameter 6 in., top of first opening 37.5 ft, depth 302 ft.

DATUM.--Land-surface datum is approximately 574.45 ft above NAVD 88 (VERTCON conversion of 575 ft above NGVD 29). Measuring point: Top of casing, 2.13 ft above land-surface datum, April 1, 2005, to present.

PERIOD OF RECORD.--April 2005 to September 2008 (daily water level at noon).

GAGE.--Water-level recorder.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.71 ft below land-surface datum, May 13, 2008; lowest, 34.61 ft below land surface datum, Oct. 23, 24, 2007.

392122078024001 Local number Ber-0562

LOCATION.--Lat 39°21'22", long 78°02'40" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Beekmantown Group.

DATUM.--Land-surface datum is approximately 569.46 ft above NAVD 88 (VERTCON conversion of 570 ft above NGVD 29).

PERIOD OF RECORD.--June 1989 to August 1990 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.15 ft below land-surface datum, June 15, 1989; lowest, 58.34 ft below land-surface datum, Dec. 31, 1989.

392124078024304 Local number Ber-0070

LOCATION.--Lat 39°21'24", long 78°02'43" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Diameter 8 in., depth 387 ft.

DATUM.--Land-surface datum is approximately 584.46 ft above NAVD 88 (VERTCON conversion of 585 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--November 1956 to June 1959 (lowest daily water level), June 1967 to December 1970 (weekly water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.65 ft below land-surface datum, Apr. 24, 1970; lowest, 70.47 ft below land-surface datum, Nov. 18, 1957.

392204077580601 Local number Ber-0090

LOCATION.--Lat 39°22'04", long 77°58'06" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Valley and Ridge aquifers.

PERIOD OF RECORD.--November 1967 to April 1968 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 65.00 ft below land-surface datum, Feb. 2, 1968; lowest, 72.85 ft below land-surface datum, Mar. 4, 1968.

392407077545201 Local number Ber-0563

LOCATION.--Lat 39°24'07", long 77°54'52" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Valley and Ridge aquifers, Chambersburg Limestone (as used by Maryland).

DATUM.--Land-surface datum is approximately 489.44 ft above NAVD 88 (VERTCON conversion of 490 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--April 1989 to August 1990 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.85 ft below land-surface datum, May 17, 1989; lowest, 47.23 ft below land-surface datum, Oct. 17, 1989.

392725077582401 Local number Ber-0445

LOCATION.--Lat 39°27'25", long 77°58'24" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004, at John Street and Porter Avenue, Martinsburg.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Valley and Ridge aquifers, Beekmantown Group. Diameter 8 in, top of first opening 10 ft, depth 154 ft.

DATUM.--Land-surface datum is approximately 464.44 ft above NAVD 88 (VERTCON conversion of 465 ft above NGVD 29, from topographic map).
Measuring point: Top edge of recorder shelter floor, 3.30 ft above land-surface datum, Nov. 1, 1956, to present.

PERIOD OF RECORD.--November 1956 to September 1968 (periodic water level), October 1968 to September 1970 (daily mean water level), October 1970 to September 2000, and October 2003 to September 2008 (daily water level at noon).

GAGE.--Water-level recorder and satellite telemeter. No instrumentation prior to October 1968.

REMARKS.--Aquifer test data available. No water level record Dec. 1-3.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.00 ft, estimated, below land-surface datum, June 24, 1972; lowest, 68.45 ft below land-surface datum, Dec. 7, 1969.

393043078041501 Local number Ber-0310

LOCATION.--Lat 39°30'43", long 78°04'15" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Valley and Ridge aquifers.

DATUM.--Land-surface datum is approximately 739.43 ft above NAVD 88 (VERTCON conversion of 740 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--November 1967 to April 1968 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 40.51 ft below land-surface datum, Jan. 29, 1968; lowest, 55.55 ft below land-surface datum, Mar. 4, 1968.

393316077594401 Local number Ber-0369

LOCATION.--Lat 39°33'16", long 77°59'44" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Diameter 6 in., depth 105 ft.

DATUM.--Land-surface datum is 615.38 ft above NAVD 88 (VERTCON conversion of 616 ft above NGVD 29).

PERIOD OF RECORD.--November 1967 to April 1968 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.77 ft below land-surface datum, Mar. 19, 1968; lowest, 3.48 ft below land-surface datum, Nov. 28, 1967.

393316077594402 Local number Ber-0370

LOCATION.--Lat 39°33'16", long 77°59'44" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

PERIOD OF RECORD.--November 1967 to April 1968 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.16 ft below land-surface datum, Apr. 2, 1968; lowest, 5.68 ft below land-surface datum, Nov. 28, 1967.

393316077594403 Local number Ber-0371

LOCATION.--Lat 39°33'16", long 77°59'44" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Diameter 6 in., depth 28 ft.

DATUM.--Land-surface datum is 615.38 ft above NAVD 88 (VERTCON conversion of 616 ft above NGVD 29).

PERIOD OF RECORD.--November 1967 to April 1968 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.36 ft below land-surface datum, Mar. 19, 1968; lowest, 5.44 ft below land-surface datum, Nov. 28, 1967.

393413078062301 Local number Ber-0558

LOCATION.--Lat 39°34'13", long 78°06'23" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Hampshire Formation. Diameter 6 in., top of first opening 122 ft, depth 406 ft.

DATUM.--Land-surface datum is approximately 884.42 ft above NAVD 88 (VERTCON conversion of 885 ft above NGVD 29).

PERIOD OF RECORD.--April 1989 to May 1990 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 46.33 ft below land-surface datum, Apr. 26, 27, 28, 1990; lowest, 58.04 ft below land-surface datum, Nov. 7, 8, 1989.

393522077513101 Local number Ber-0431

LOCATION.--Lat 39°35'22", long 77°51'31" referenced to North American Datum of 1927, Berkeley County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Martinsburg Shale. Diameter 6 in., depth 41 ft.

DATUM.--Land-surface datum is approximately 524.32 ft above NAVD 88 (VERTCON conversion of 525 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--October 1956 to July 1957 (lowest daily water level).

EXTREMES FOR PERIOD OF RECORD.--Highest daily low water level, 3.01 ft below land-surface datum, Feb. 10, 1957; lowest, 11.51 ft below land-surface datum, July 1, 1957.

384003080462601 Local number Brx-0255

LOCATION.--Lat 38°40'03", long 80°46'26" referenced to North American Datum of 1927, Braxton County, WV, Hydrologic Unit 05050007, at Kanawha Street, Gassaway.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Pennsylvanian aquifers, Conemaugh Formation. Drilled unused water-table well, diameter 6 in., depth 100 ft, cased with steel.

DATUM.--Land-surface datum is approximately 1,099.40 ft above NAVD 88 (VERTCON conversion of 1,100 ft above NGVD 29). Measuring point: Top of casing, 1.92 ft above land-surface datum.

PERIOD OF RECORD.--August 1971 to January 1991 (weekly water level).

GAGE.--Weekly measurement by observer.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 72.28 ft below land-surface datum, Mar. 7, 1973; lowest measured, 74.88 ft below land-surface datum, Aug. 11, 1971.

401216080362703 Local number Brk-0066

LOCATION.--Lat 40°12'16", long 80°36'27" referenced to North American Datum of 1927, Brooke County, WV, Hydrologic Unit 05030106, about 2.5 mi west of Bethany on hilltop about 1,700 ft west of Buffalo Creek.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.-- Pennsylvanian aquifers, Monongahela Formation. Diameter 6 in., top of first opening 46.5 ft, depth 50.5 ft.

DATUM.--Land-surface datum is approximately 1,149.43 ft above NAVD 88 (VERTCON conversion of 1,150 ft above NGVD 29, from topographic map). Measuring point: Top edge of recorder shelter floor, 2.14 ft above land-surface datum, Mar. 1, 2002, to present. For the period from June 3, 1999

to Feb. 28, 2002, measuring point was top edge of recorder shelter, 2.18 ft above land-surface datum. Prior to June 3, 1999, measuring point was top edge of recorder shelter floor, 2.20 ft above land-surface datum.

PERIOD OF RECORD.--July 1982 (periodic water level), August 1982 to September 2008 (daily water level at noon).

GAGE.--Water-level recorder with satellite telemeter. No instrumentation prior to August 1982.

REMARKS.--Aquifer test data available.

EXTREMES FOR PERIOD OF RECORD.--Highest noon water level, 34.87 ft below land-surface datum, Apr. 3, 1985; lowest, 43.01 ft below land-surface datum, Nov. 13, 1999.

401939080355301 Local number Brk-0069

LOCATION.--Lat 40°19'39", long 80°35'53" referenced to North American Datum of 1927, Brooke County, WV, Hydrologic Unit 05030101.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.-- Alluvial aquifers, Holocene Alluvium. Diameter 1.33 in., top of first opening 58 ft, depth 74.5 ft.

DATUM.--Land-surface datum is approximately 674.39 ft above NAVD 88 (VERTCON conversion of 675 ft above NGVD 29). Measuring point: Top back edge of recorder shelter, 1.80 ft above land-surface datum, Jan. 19, 1990, to present.

PERIOD OF RECORD.--January 1990 (daily mean water level), February to May 1990 (daily mean and noon water level, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.96 ft below land-surface datum, Feb. 17, 1990; lowest, 32.94 ft below land-surface datum, Apr. 10, 1990.

385503081053301 Local number Cal-0094

LOCATION.--Lat 38°55'03", long 81°05'33" referenced to North American Datum of 1927, Calhoun County, WV, Hydrologic Unit 05030203.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.-- Pennsylvanian aquifers, Monongahela Group. Diameter 6 in., depth 65 ft.

PERIOD OF RECORD.--August to November 1966 (weekly water level), May 1967 to October 1969 (daily water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.52 ft below land-surface datum, Dec. 28, 1968; lowest, 22.10 ft below land-surface datum, Nov. 21, 28, 1966.

382648081055201 Local number Cla-0009

LOCATION.--Lat 38°26'48", long 81°05'52" referenced to North American Datum of 1927, Clay County, WV, Hydrologic Unit 05050007, at Clay County school grounds, Clay.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 76 ft, cased with steel.

DATUM.--Land-surface datum is approximately 699.39 ft above NAVD 88 (VERTCON conversion of 700 ft above NGVD 29, from topographic map). Measuring point: Top of casing, 3.5 ft below land-surface datum.

PERIOD OF RECORD.--August 1971 (miscellaneous water level), February 1972 to June 1976 (daily water level at noon).

GAGE.--Water-level recorder.

REMARKS.--Water level affected by change in stage of Elk River.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.47 ft below land-surface datum, Feb. 26, 1972; lowest, 28.00 ft below land-surface datum, Aug. 1, 1971.

380154080571301 Local number Fay-0256

LOCATION.--Lat 38°01'54", long 80°57'13" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050005, 1.6 mi south of U.S. Route 60 along State Route 11, near Clifftop.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Pennsylvanian aquifers, New River Formation. Drilled unused water-table well, diameter 6 in., depth 41.5 ft, cased with wrought iron.

DATUM.--Land-surface datum is approximately 2,279.49 ft above NAVD 88 (VERTCON conversion of 2,280 ft above NGVD 29, from topographic map).
Measuring point: Top of casing cover, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--February 1986 to September 1995 (weekly water level).

GAGE.--Weekly measurements by USGS personnel.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 0.23 ft above land-surface datum, Oct. 17, 1989; lowest measured, 12.00 ft below land-surface datum, July 12, 1988.

381048081192801 Local number Fay-0124

LOCATION.--Lat 38°10'48", long 81°19'28" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050006.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Pennsylvanian aquifers, Kanawha Formation. Diameter 6 in., depth 95 ft.

DATUM.--Land-surface datum is approximately 599.38 ft above NAVD 88 (VERTCON conversion of 600 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--November 1942 to November 1953 (weekly water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.48 ft below land-surface datum, Aug. 3, 1948; lowest, 35.49 ft below land-surface datum, Aug. 16, 1947.

381052081190101 Local number Fay-0125

LOCATION.--Lat 38°10'52", long 81°19'01" referenced to North American Datum of 1927, Fayette County, WV, Hydrologic Unit 05050006.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Pennsylvanian aquifers, Kanawha Formation. Diameter 8 in., depth 154 ft.

DATUM.--Land-surface datum is approximately 624.38 ft above NAVD 88 (VERTCON conversion of 625 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--March 1954 to July 1956 (weekly water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 35.68 ft below land-surface datum, Apr. 6, 1954; lowest, 53.65 ft below land-surface datum, Aug. 10, 1954.

385604080495901 Local number Gil-0196

LOCATION.--Lat 38°56'04", long 80°49'59" referenced to North American Datum of 1927, Gilmer County, WV, Hydrologic Unit 05030203, at Glennville State College Campus, Glennville.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Pennsylvanian aquifers, Conemaugh Formation. Dug unused water-table well, diameter 3 ft, depth 25 ft, cased with concrete tile. July 1988, 4 in. plastic casing fitted with screened well point installed, and well backfilled with gravel and sand.

DATUM.--Land-surface datum is approximately 819.45 ft above NAVD 88 (VERTCON conversion of 820 ft above NGVD 29). Measuring point: Top of concrete cover at land-surface datum.

PERIOD OF RECORD.--October 1953 to April 1994 (weekly water level).

GAGE.--Weekly measurement by observer.

REMARKS.--Data after well construction July 1988 suspected of not reflecting natural hydrologic conditions.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 7.04 ft below land-surface datum, Apr. 18, 1994; lowest measured, 18.75 ft below land-surface datum, Nov. 30, 1953.

391652079181401 Local number Grt-0090

LOCATION.--Lat 39°16'52", long 79°18'14" referenced to North American Datum of 1927, Grant County, WV, Hydrologic Unit 02070002, about 200 ft north of U.S. Route 50, about 3.5 mi west of Mount Storm.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Conemaugh Formation. Diameter 6 in., top of first opening 23 ft, depth 24 ft.

DATUM.--Land-surface datum is approximately 2,889.60 ft above NAVD 88 (VERTCON conversion of 2,890 ft above NGVD 29, from topographic map). Measuring point: Top edge of recorder shelter floor, 1.49 ft above land-surface datum, July 30, 2003, to present. Prior to July 30, 2003, measuring point was the top edge of the recorder shelter floor 1.50 ft above land-surface datum.

PERIOD OF RECORD.--June 1978 to December 13, 2006 (daily water level at noon).

GAGE.--Water-level recorder.

REMARKS.--Well is near reclaimed surface mine.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.21 ft below land-surface datum, Apr. 22, 2002; lowest, 21.24 ft below land-surface datum, Nov. 28, 29, 1982.

391657079182901 Local number Grt-0091

LOCATION.--Lat 39°16'57", long 79°18'29" referenced to North American Datum of 1927, Grant County, WV, Hydrologic Unit 02070002.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers.

DATUM.--Land-surface datum is approximately 2,864.60 ft above NAVD 88 (VERTCON conversion of 2,865 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--July 1978 to March 1981 (daily water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.30 ft below land-surface datum, May 26, 1978; lowest, 43.65 ft below land-surface datum, Nov. 26, 1980.

374804080174001 Local number Grb-0147

LOCATION.--Lat 37°48'08", long 80°17'40" referenced to North American Datum of 1927, Greenbrier County, WV, Hydrologic Unit 05050003, at Fish Culture Station, U.S. Fish and Wildlife Service Hatchery, White Sulphur Springs.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Marcellus Shale. Drilled unused water-table well, diameter 6 in., depth 61 ft, cased with steel.

DATUM.--Land-surface datum is approximately 1,874.49 ft above NAVD 88 (VERTCON conversion of 1,875 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 0.90 ft above land-surface datum.

PERIOD OF RECORD.--November 1953 to September 1995 (weekly water level).

GAGE.--Weekly measurement by observer.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.80 ft below land-surface datum, May 16, 1955; lowest measured, 14.82 ft below land-surface datum, Aug. 29, 1981.

374809080173901 Local number Grb-0146

LOCATION.--Lat 37°48'09", long 80°17'39" referenced to North American Datum of 1927, Greenbrier County, WV, Hydrologic Unit 05050003, at Greenbrier State Park, near White Sulphur Springs.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers. Drilled unused artesian well, diameter 6 in., depth 44 ft, cased with steel.

DATUM.--Land-surface datum is approximately 1,874.49 ft above NAVD 88 (VERTCON conversion of 1,875 ft above NGVD 29, from topographic map).
Measuring point: Top of breather pipe in sanitary seal, 1.48 ft above land-surface datum.

PERIOD OF RECORD.--August 1950, December 1970 to January 1976 (periodic water levels).

REMARKS.--Well buried January 1976.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 3.02 ft below land-surface datum, Mar. 20, 1975; lowest measured, 11.46 ft below land-surface datum, Oct. 18, 1973.

375747080465901 Local number Grb-0156

LOCATION.--Lat 37°57'47", long 80°46'59" referenced to North American Datum of 1927, Greenbrier County, WV, Hydrologic Unit 05050005, 0.4 mi southwest on State Route 20 from intersection with U.S. Route 60 in Rainelle.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Mississippian aquifers, Bluestone and Princeton Formations. Drilled unused water-table well, diameter 10.5 in., top of first opening 59.5 ft, depth 119 ft, cased with galvanized iron to 59.5 ft.

DATUM.--Land-surface datum is approximately 2,379.52 ft above NAVD 88 (VERTCON conversion of 2,380 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 4.50 ft below land-surface datum.

PERIOD OF RECORD.--January 1980 to September 1987 (daily water level at noon).

GAGE.--Water-level recorder.

REMARKS.--Because well located below land-surface datum, surface water drained to well at times.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 18.94 ft below land-surface datum, Mar. 17, 1986; lowest, 29.91 ft below land-surface datum, Apr. 12, 1984.

391257078404601 Local number Hmp-0360

LOCATION.--Lat 39°12'57", long 78°40'46" referenced to North American Datum of 1927, Hampshire County, WV, Hydrologic Unit 02070003, about 4 mi south of Augusta on State Route 29.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Upper-Middle Devonian Series. Drilled unused artesian well, diameter 6 in., depth 24 ft, cased with tile.

DATUM.--Land-surface datum is approximately 1,399.55 ft above NAVD 88 (VERTCON conversion of 1,400 ft above NGVD 29, from topographic map).
Measuring point: Top of extended casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--February 1972 to January 2002 (daily water level at noon).

GAGE.--Water-level recorder.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.21 ft above land-surface datum, Mar. 21, 2001; lowest, 16.69 ft below land-surface datum, estimated, July 15, 1973.

391724078235801 Local number Hmp-0131

LOCATION.--Lat 39°17'24", long 78°23'58" referenced to North American Datum of 1927, Hampshire County, WV, Hydrologic Unit 02070003.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Brallier Formation. Diameter 6 in., depth 85 ft.

DATUM.--Land-surface datum is approximately 1,054.50 ft above NAVD 88 (VERTCON conversion of 1,055 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--February to June 1968 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.78 ft below land-surface datum, Apr. 3, 1968; lowest, 30.54 ft below land-surface datum, Apr. 25, 1968.

391859078413301 Local number Hmp-0182

LOCATION.--Lat 39°18'59", long 78°41'33" referenced to North American Datum of 1927, Hampshire County, WV, Hydrologic Unit 02070003.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is approximately 1,249.47 ft above NAVD 88 (VERTCON conversion of 1,250 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--December 1967 to June 1968 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.20 ft below land-surface datum, June 3, 1968; lowest, 10.10 ft below land-surface datum, May 9, 1968.

391900078413001 Local number Hmp-0393

LOCATION.--Lat 39°19'00", long 78°41'30" referenced to North American Datum of 1927, Hampshire County, WV, Hydrologic Unit is unknown, at Shanks Roadside Park near Romney.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Hampshire Formation. Diameter 6 in., depth 51 ft, cased.

DATUM.--Land-surface datum is approximately 1,149.47 ft above NAVD 88 (VERTCON conversion of 1,150 ft above NGVD 29, from topographic map).
Measuring point: Edge of hole in pump base at land-surface datum.

PERIOD OF RECORD.--1955-59, 1966-73 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.52 ft below land-surface datum, May 31, 1968; lowest, 14.53 ft below land-surface datum, Sept. 3, 1957.

392428078241001 Local number Hmp-0301

LOCATION.--Lat 39°24'28", long 78°24'10" referenced to North American Datum of 1927, Hampshire County, WV, Hydrologic Unit 02070003.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers.

DATUM.--Land-surface datum is approximately 754.44 ft above NAVD 88 (VERTCON conversion of 755 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--February to June 1968 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.37 ft below land-surface datum, Apr. 25, 1968; lowest, 5.06 ft below land-surface datum, Feb. 26, 1968.

385714078441301 Local number Hrd-0290

LOCATION.--Lat 38°57'14", long 78°44'13" referenced to North American Datum of 1927, Hardy County, WV, Hydrologic Unit 02070003, about 3 mi east of Lost River near entrance to Trout Pond Recreation Area.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers. Drilled unused water-table well, diameter 6 in., depth 460 ft, cased with steel to 190 ft.

DATUM.--Land-surface datum is approximately 1,919.65 ft above NAVD 88 (VERTCON conversion of 1,920 ft above NGVD 29, from topographic map).
Measuring point: Top of well casing, 0.90 ft above land-surface datum.

PERIOD OF RECORD.--March 1968 to September 1995 (periodic water level).

GAGE.--Periodic measurements by USGS personnel. Prior to November 1976, water-level recorder.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 263.00 ft, estimated, below land-surface datum, July 15, 1972; lowest, 274.80 ft below land-surface datum, Oct. 1, 1985.

390300079001201 Local number Hrd-0249

LOCATION.--Lat 39°03'00", long 79°00'12" referenced to North American Datum of 1927, Hardy County, WV, Hydrologic Unit 02070001.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers.

DATUM.--Land-surface datum is approximately 824.48 ft above NAVD 88 (VERTCON conversion of 825 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--August 1966 to February 1968 (weekly water level), March 1968 to July 1971 (daily water level at noon).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.87 ft below land-surface datum, Feb. 23, 1971; lowest, 17.21 ft below land-surface datum, Dec. 5, 1969.

390333078370801 Local number Hrd-0301

LOCATION.--Lat 39°03'33.06", long 78°37'07.61" referenced to North American Datum of 1983, Hardy County, WV, Hydrologic Unit 02070003, about 200 ft east of Trout Run Rd, 1.5 mi southwest of Wardensville.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Helderberg Group. Diameter 6 in., top of first opening 58 ft, depth 160 ft.

DATUM.--Land-surface datum is approximately 1,164.56 ft above NAVD 88 (VERTCON conversion of 1,165 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 1.76 ft above land-surface datum, June 1, 2004, to present.

PERIOD OF RECORD.--June 2004 to September 2008 (daily water level at noon).

GAGE.--Water-level recorder. Prior to Oct. 1, 2006, satellite telemeter at station.

REMARKS.--Aquifer test data and water-quality data available.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.93 ft below land-surface datum, Dec. 11, 2004; lowest, 20.94 ft below land-surface datum, Oct. 21, 2007.

390357078392101 Local number Hrd-0274

LOCATION.--Lat 39°03'57", long 78°39'21" referenced to North American Datum of 1927, Hardy County, WV, Hydrologic Unit 02070003.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers.

DATUM.--Land-surface datum is approximately 1,154.54 ft above NAVD 88 (VERTCON conversion of 1,155 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--February to May 1968 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.03 ft below land-surface datum, Apr. 25, 1968; lowest, 30.88 ft below land-surface datum, Fe. 26, 1968.

390431078415901 Local number Hrd-0008

LOCATION.--Lat 39°04'31", long 78°41'59" referenced to North American Datum of 1927, Hardy County, WV, Hydrologic Unit 02070003, about 7 mi northeast of Baker on Secondary State Route 23/8.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Valley and Ridge aquifers. Drilled unused water-table well, diameter 6 in., depth 58 ft, cased with tin pipe to 1 ft.

DATUM.—Land-surface datum is approximately 1,862.53 ft above NAVD 88 (VERTCON conversion of 1,863 ft above NGVD 29, from topographic map).
Measuring point: Top of tin casing, 0.3 ft above land-surface datum.

PERIOD OF RECORD.—April 1972 (miscellaneous water level), May 1972 to November 1976 (daily water level at noon).

GAGE.—Water-level recorder.

REMARKS.—Water level affected by blasting at nearby limestone quarry. Well depth reduced to about 43 ft due to collapse.

EXTREMES FOR PERIOD OF RECORD.—Highest water level, 14.81 ft below land-surface datum, Mar. 19, 1975; lowest, 44.30 ft below land-surface datum, Aug. 19, Sept 23, 1974.

391142077551701 Local number Jef-0525

LOCATION.—Lat 39°11'42", long 77°55'17" referenced to North American Datum of 1927, Jefferson County, WV, Hydrologic Unit 02070007, about 6 mi south of Charles Town adjacent to U.S. Route 340.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Valley and Ridge aquifers, Conococheague Group. Drilled unused water-table well, diameter 6 in., depth 153 ft, cased with steel.

DATUM.—Land-surface datum is approximately 571.35 ft above NAVD 88 (VERTCON conversion of 572 ft above NGVD 29, from topographic map).
Measuring point: Top edge of recorder base, at land-surface datum.

PERIOD OF RECORD.—March 1988 to September 1996 (daily water level at noon).

GAGE.—Water-level recorder.

EXTREMES FOR PERIOD OF RECORD.—Highest water-level, 41.54 ft below land-surface datum, Mar. 15-17, 1994; lowest, 61.89 ft below land-surface datum, Sept. 28, 1988.

392104077554801 Local number Jef-0526

LOCATION.—Lat 39°21'04", long 77°55'48" referenced to North American Datum of 1927, Jefferson County, WV, Hydrologic Unit 02070007, at Leetown Fish Research Station, Leetown.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Valley and Ridge aquifers, Beekmantown Group. Diameter 8 in., top of first opening 36.7 ft, depth 155 ft.

DATUM.—Land-surface datum is approximately 479.46 ft above NAVD 88 (VERTCON conversion of 480 ft above NGVD 29, from topographic map).
Measuring point: Top edge of recorder shelter floor, 1.68 ft above land-surface datum, May 23, 2001, to present. Prior to May 23, 2001, measuring point was top edge of recorder shelter, 2.20 ft above land surface datum.

PERIOD OF RECORD.—March 1988 to September 2008 (daily water level at noon).

GAGE.—Water-level recorder with satellite telemeter.

REMARKS.—Water-quality and well log data available.

EXTREMES FOR PERIOD OF RECORD.—Highest water level, 15.87 ft below land-surface datum, May 21, 1988; lowest, 25.39 ft below land-surface datum, July 23, 2002.

392148077460301 Local number Jef-0541

LOCATION.--Lat 39°21'48", long 77°46'03" referenced to North American Datum of 1927, Jefferson County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is undefined. Measuring point: Undefined.

PERIOD OF RECORD.--April 1988 to August 1989 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 96.97 ft below land-surface datum, May 17, 1989; lowest, 105.09 ft below land-surface datum, Feb. 13-21, 1989.

392457077501301 Local number Jef-0524

LOCATION.--Lat 39°24'57", long 77°50'13" referenced to North American Datum of 1927, Jefferson County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Conococheague Group. Diameter 8.0 in., depth 180 ft.

DATUM.--Land-surface datum is approximately 543.41 ft above NAVD 88 (VERTCON conversion from 544 ft above NGVD 29).

PERIOD OF RECORD.--April 1988 to August 1989 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.01 ft below land-surface datum, May 25, 1988; lowest, 62.74 ft below land-surface datum, Dec. 11, 1988.

381216081301701 Local number Kan-0106

LOCATION.--Lat 38°12'16", long 81°30'17" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050006.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Kanawha Formation.

DATUM.--Land-surface datum approximately 629.40 ft above NAVD 88 (VERTCON conversion of 630 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--March 1957 to January 1958 (daily water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.27 ft below land-surface datum, Mar. 19, 1957; lowest, 17.02 ft below land-surface datum, Nov. 11, 1957.

381549081221201 Local number Kan-0188

LOCATION.--Lat 38°15'49", long 81°22'12" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050006.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Kanawha Formation.

DATUM.--Land-surface datum is approximately 764.42 ft above NAVD 88 (VERTCON conversion of 765 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--October 1942 to November 1946 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.50 ft below land-surface datum, Feb. 23, 1944; lowest, 18.32 ft below land-surface datum, Nov. 20, 1946.

381643081390001 Local number Kan-0194

LOCATION.--Lat 38°16'43", long 81°39'00" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Kanawha Formation.

DATUM.--Land-surface datum is approximately 769.39 ft above NAVD 88 (VERTCON conversion of 770 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--December 1970 to June 1972 (weekly water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 32.57 ft below land-surface datum, Feb. 24, Apr. 13, 1972; lowest, 34.48 ft below land-surface datum, Dec. 10, 1970.

382055081375301 Local number Kan-0257

LOCATION.--Lat 38°20'55", long 81°37'53" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050007, at Dickinson and Lee Streets, Charleston.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers. Drilled unused artesian well, diameter 8 in., depth 208 ft, cased with steel to 42 ft.

DATUM.--Land-surface datum is approximately 574.35 ft above NAVD 88 (VERTCON conversion of 575 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 12 ft below land-surface datum.

PERIOD OF RECORD.--September 1941, and January 1942 to May 1947 (weekly water level), may 1947 to October 1976 (daily water level at noon).

GAGE.--Water-level recorder. Prior to May 1947, weekly measurement.

REMARKS.--Water level affected by stage of Kanawha River.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 26.71 ft below land-surface datum, Jan. 12, 1974; lowest measured, 43.44 ft below land-surface datum, Sept. 6, 1945.

382150081384101 Local number Kan-0306

LOCATION.--Lat 38°21'50", long 81°38'41" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is approximately 600.35 ft above NAVD 88 (VERTCON conversion of 601 ft above NGVD 29).

PERIOD OF RECORD.--October to November 1942 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 40.86 ft below land-surface datum, Oct. 31, 1942; lowest, 41.64 ft below land-surface datum, Nov. 3, 1942.

382515081504101 Local number Kan-0455

LOCATION.--Lat 38°25'15", long 81°50'41" referenced to North American Datum of 1927, Kanawha County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers.

DATUM.--Land-surface datum is approximately 589.34 ft above NAVD 88 (VERTCON conversion of 590 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--March 1957 to May 1959 (lowest daily water level), June 1959 to May 1962 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.40 ft below land-surface datum, May 22, 1962; lowest, 19.44 ft below land-surface datum, Dec. 21, 1960.

390008080283401 Local number Lew-0196

LOCATION.--Lat 39°00'08", long 80°28'34" referenced to North American Datum of 1927, Lewis County, WV, Hydrologic Unit 05020001, about 75 ft northeast of County Route 30 bridge across West Fork River at Brownsville.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Monongahela Formation. Drilled unused water-table well, diameter 6 in., depth 102 ft, cased with galvanized iron to 18 ft.

DATUM.--Land-surface datum is approximately 1,025.45 ft above NAVD 88 (VERTCON conversion of 1,026 ft above NGVD 29). Measuring point: Three hacksaw marks on top of casing at land-surface datum.

PERIOD OF RECORD.--March 1982 (miscellaneous water level), May 1982 to November 1985 (daily water level at noon), December 1985 to October 1987 (periodic water level).

GAGE.--Miscellaneous measurement by USGS personnel March 1982; water-level recorder May 1982 to November 1985; periodic measurement by USGS personnel December 1985 to October 1987.

REMARKS.--Well covered by Stonewall Jackson Lake January 1988.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.30 ft below land-surface datum, Aug. 31, 1984; lowest, 12.64 ft below land-surface datum, Oct. 7, 8, 10, 1983.

390553080280801 Local number Lew-0194

LOCATION.--Lat 39°05'53", long 80°28'08" referenced to North American Datum of 1927, Lewis County, WV, Hydrologic Unit 05020002, at Jackson's Mill 4H Camp, Jackson's Mill.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers. Drilled unused water-table well, diameter 12 in., depth 92 ft, cased.

DATUM.--Land-surface datum is approximately 1,019.44 ft above NAVD 88 (VERTCON conversion of 1,020 ft above NGVD 29, from topographic map). Measuring point: Hole in concrete pump platform at land-surface datum.

PERIOD OF RECORD.--May 1961 to May 1976 (weekly water level), April 1993 (miscellaneous water level).

REMARKS.--Water level affected by stage of West Fork River.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.40 ft below land-surface datum, Dec. 30, 1969; lowest measured, 23.85 ft below land-surface datum, Oct. 14, 1963.

390553080280802 Local number Lew-0195

LOCATION.--Lat 39°05'53", long 80°28'08" referenced to North American Datum of 1927, Lewis County, WV, Hydrologic Unit 05020002, at Jackson's Mill State 4-H Camp, Jackson's Mills.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers. Drilled unused water-table well, diameter 12 in., depth 122 ft, cased.

DATUM.--Land-surface datum is approximately 1,019.44 ft above NAVD 88 (VERTCON conversion of 1,020 ft above NGVD 29, from topographic map).
Measuring point: Drilled hole in steel plate covering casing at land-surface datum.

PERIOD OF RECORD.--May 1961 to May 1976 (weekly water level), October 1977 to September 1998 (periodic water level).

GAGE.--Periodic measurements by USGS personnel. Prior to October 1977, weekly measurements by observer.

REMARKS.--Water level affected by stage of West Fork River.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measurement, 12.00 ft below land-surface datum, Dec. 11, 1972; lowest measured, 24.80 ft below land-surface datum, Oct. 6, 1977.

393057080161901 Local number Mar-0291

LOCATION.--Lat 39°30'57", long 80°16'19" referenced to North American Datum of 1927, Marion County, WV, Hydrologic Unit 05020003, on State Route 250/9, 1.2 mi west of Farmington.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Dunkard Group. Drilled unused water-table well, diameter 6 in., depth 74 ft, cased with steel to 6 ft.

DATUM.--Land-surface datum is approximately 1,139.48 ft above NAVD 88 (VERTCON conversion of 1,140 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, flush with instrument shelf 0.30 ft above land-surface datum.

PERIOD OF RECORD.--June 1977 (miscellaneous water level), December 1977 to November 1985 (daily observation at noon), December 1985 to June 1987 (periodic water level).

GAGE.--Miscellaneous measurement by USGS personnel June 1977; water-level recorder December 1977 to November 1985; periodic measurement by USGS personnel December 1985 to June 1987.

REMARKS.--Well collapsed sometime between June 5 and Aug. 10, 1987, and is no longer suitable for water-level measurement.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.70 ft below land-surface datum, Apr. 23, 1984; lowest, 56.32 ft below land-surface datum, Oct. 18-20, 1983.

393101080150501 Local number Mar-0266

LOCATION.--Lat 39°31'01", long 80°15'05" referenced to North American Datum of 1927, Marion County, WV, Hydrologic Unit 05020003, about 1,250 ft north of State Route 91, and 100 ft west of State Route 15, in Farmington.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Monongahela Formation. Drilled unused water-table well, diameter 6 in., depth 266 ft, cased with steel to 252 ft.

DATUM.--Land-surface datum is approximately 969.48 ft above NAVD 88 (VERTCON conversion of 970 ft above NGVD 29, from topographic map).
Measuring point: Top of steel plate at land-surface datum.

PERIOD OF RECORD.--April to August 1978 (periodic water level), November 1978 to December 1991 (daily water level), August 1992 to August 1995 (periodic water level).

GAGE.--Periodic measurements by USGS personnel. November 1978 to March 1992, daily measurements by observer.

REMARKS.--Well formerly used by U.S. Bureau of Mines to back-fill abandoned mine with shale slurry. Water level possibly affected by mine pumpage.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 108.13 ft below land-surface datum, Aug. 17, 1995; lowest measured, 220.46 ft below land-surface datum, Apr. 5, 1978.

394935080504901 Local number Mal-0039

LOCATION.--Lat 39°44'39", long 80°51'02" referenced to North American Datum of 1927, Marshall County, WV, Hydrologic Unit 05030201.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is approximately 624.36 ft above NAVD 88 (VERTCON conversion of 625 ft above National Geodetic Vertical Datum of 1929, from topographic map).

PERIOD OF RECORD.--July 1950 to April 1951 (daily water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 45.22 ft below land-surface datum, Apr. 3, 1951; lowest, 54.63 ft below land-surface datum, Sept. 1, 11, 1950.

395048080334001 Local number Mal-0411

LOCATION.--Lat 39°50'48", long 80°33'40" referenced to North American Datum of 1927, Marshall County, WV, Hydrologic Unit is unknown, at Cameron.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Dunkard Group. Drilled unused water-table well, diameter 8 in., depth 140 ft, cased with steel.

DATUM.--Land-surface datum is approximately 1,079.55 ft above NAVD 88 (VERTCON conversion of 1,080 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 2.0 ft below land-surface datum.

PERIOD OF RECORD.--1971-73 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.40 ft below land-surface datum, Feb. 15, 1972; lowest, 8.75 ft below land-surface datum, Aug. 3, 1971.

395608080452301 Local number Mal-0070

LOCATION.--Lat 39°56'08", long 80°45'23" referenced to North American Datum of 1927, Marshall County, WV, Hydrologic Unit 05030106, on U.S. Highway 250, Glendale.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Alluvial aquifers. Drilled unused water-table well, diameter 10 in., depth 100 ft, cased.

DATUM.--Land-surface datum is approximately 649.50 ft above NAVD 88 (VERTCON conversion of 650 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 4 ft below land-surface datum.

PERIOD OF RECORD.--June 1950 to August 1965, and January 1967 to January 1977 (weekly water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 54.68 ft below land-surface datum, Jan. 31, 1952; lowest, 73.80 ft below land-surface datum, Nov. 8, 22, 1957.

395610080452501 Local number Mal-0066

LOCATION.--Lat 39°56'10", long 80°45'25" referenced to North American Datum of 1927, Marshall County, WV, Hydrologic Unit 05030106, on U.S. Highway 250, Glendale.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Alluvial aquifers, Holocene Alluvium. Drilled unused water-table well, diameter 10 in., depth 98 ft, cased.

DATUM.--Land-surface datum is approximately 639.50 ft above NAVD 88 (VERTCON conversion of 640 ft above NGVD 29). Measuring point: Top of casing at land-surface datum.

PERIOD OF RECORD.--February 1977 to May 1982 (weekly water level).

GAGE.--Weekly measurement.

REMARKS.--Well depth measured 94 ft in April 1980.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measure, 52.53 ft below land-surface datum, Aug. 27 and Sept. 2, 1980; lowest measured, 59.37 ft below land-surface datum, Feb. 23, 1977.

385450082064601 Local number Mas-0859

LOCATION.--Lat 38°54'50", long 82°06'46" referenced to North American Datum of 1927, Mason County, WV, Hydrologic Unit 05030202, 4 mi north of Point Pleasant on State Route 62.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Alluvial aquifers, Holocene Alluvium. Drilled water-table irrigation well, diameter 12 in., depth 73 ft, cased with steel to 61 ft, screened 61-73 ft.

DATUM.--Land-surface datum is approximately 599.36 ft above NAVD 88 (VERTCON conversion of 600 ft above NGVD 29). Measuring point: Edge of pump housing above hole on east side of pump, 1.4 ft above land-surface datum.

PERIOD OF RECORD.--May 1958 to June 1982 (weekly water level).

GAGE.--Weekly measurement.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.60 ft below land-surface datum, Apr. 27, 1979; lowest measured, 42.54 ft below land-surface datum, Jan. 16, 1970.

385451082062001 Local number Mas-0858

LOCATION.--Lat 38°54'51", long 82°06'20" referenced to North American Datum of 1927, Mason County, WV, Hydrologic Unit 05030202, about 0.5 mi east of intersection of State Route 62 and Secondary State Route 13.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Conemaugh Formation. Drilled unused artesian well, diameter 6 in., depth 131 ft, cased with steel to 60 ft.

DATUM.--Land-surface datum is approximately 614.36 ft above NAVD 88 (VERTCON conversion of 615 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1959 to September 1978, October 1978 to January 1989 (daily water level at noon).

GAGE.--Water-level recorder.

REMARKS.--Well buried when owner excavated property.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.26 ft below land-surface datum, Aug. 22-25, 1980; lowest, 26.20 ft below land-surface datum, Jan. 1, 1966 (33.27 ft below land-surface datum, Oct. 29, 1984, and 30.16 ft Apr. 4, 1985, due to pumping).

372606081530001 Local number Mcd-0155

LOCATION.--Lat 37°26'06", long 81°53'00" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Depth 336 ft.

DATUM.--Land-surface datum is undefined. Measuring point: Undefined.

PERIOD OF RECORD.--March 1981 to September 1982 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 26.96 ft below land-surface datum, Apr. 24, 1981; lowest, 35.25 ft below land-surface datum, Dec. 13, 1981.

372608081530201 Local number Mcd-0156

LOCATION.--Lat 37°26'08", long 81°53'02" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Depth 40 ft.

DATUM.--Land-surface datum is undefined. Measuring point: Undefined.

PERIOD OF RECORD.--March to May 1981, and October 1981 to September 1982 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.23 ft below land-surface datum, May 3, 4, 1982; lowest, 18.48 ft below land-surface datum, Oct. 13, 14, Dec. 6, 1981.

372634081524601 Local number Mcd-0157

LOCATION.--Lat 37°26'34", long 81°52'46" referenced to North American Datum of 1927, McDowell County, WV, Hydrologic Unit 05070201.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Depth 51 ft.

DATUM.--Land-surface datum is undefined. Measuring point: Undefined.

PERIOD OF RECORD.--March 1981 to September 1982 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.18 ft below land-surface datum, Mar. 16, 1982; lowest, 7.55 ft below land-surface datum, Dec. 13, 14, 1981.

372149081055001 Local number Mer-0113

Undefined Aquifer
Mercer County, WV

LOCATION.--Lat 37°21'49", long 81°05'50" referenced to North American Datum of 1927, Mercer County, WV, Hydrologic Unit 05050002, at Princeton Water Service, Company No. 1 well, Princeton.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 249 ft, cased. Measured depth 165 ft, Oct. 24, 1985.

DATUM.--Land-surface datum is approximately 2,386.63 ft above NAVD 88 (VERTCON conversion of 2,387 ft above NGVD 29, from topographic map).
Measuring point: Top of casing extension, 5.50 ft above land-surface datum. Prior to September 1975 measuring point was top of casing at land-surface datum.

PERIOD OF RECORD.--March 1960 to September 1995 (weekly water level).

REVISED RECORDS.--WDR WV-79-1: 1977-78 (water levels).

GAGE.--Weekly measurement by observer.

REMARKS.--Water level affected by nearby pumping. Flowing at land surface many days 1968 to 1985.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.90 ft above land-surface datum, June 28, 1995; lowest measured, 90.58 ft below land-surface datum, Dec. 10, 1969.

372623081071101 Local number Mer-0173

LOCATION.--Lat 37°26'23", long 81°07'11" referenced to North American Datum of 1927, Mercer County, WV, Hydrologic Unit is unknown, at Spanishburg High School, Princeton.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Mauch Chunk Formation. Drilled water-table well, diameter 8 in., reported depth 200+ ft, cased with steel.

DATUM.--Land-surface datum is approximately 2,069.59 ft above NAVD 88 (VERCON conversion of 2,070 ft above NGVD 29, from topographic map).
Measuring point: Top of sanitary seal on casing, 2.05 ft above land-surface datum.

PERIOD OF RECORD.--August 1971 to February 1976 (weekly water level).

REMARKS.--Well affected by pumping.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.55 ft below land-surface datum, Sept. 13, 1973; lowest measured, 25.55 ft below land-surface datum, Mar. 14, 1974.

392114079081101 Local number Min-0162

LOCATION.--Lat 39°21'14", long 79°08'11" referenced to North American Datum of 1927, Mineral County, WV, Hydrologic Unit 02070002, 2.2 mi north of U.S. Route 50 on State Route 42 at Sulphur City near Elk Garden.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Conemaugh Formation. Drilled unused artesian well, diameter 6 in., depth 37 ft, cased with steel.

DATUM.--Land-surface datum is approximately 2,479.53 ft above NAVD 88 (VERTCON conversion of 2,480 ft above NGVD 29, from topographic map).
Measuring point: Top of casing extension, 0.70 ft above land-surface datum.

PERIOD OF RECORD.--August 1968 to September 1976 (weekly water level), October 1976 to April 1995 (periodic water level).

GAGE.--Periodic measurements by USGS personnel. Prior to 1977, weekly measurement by observer.

REMARKS.--Well flows at times. Water level affected by pumpage at times from a nearby dug well of 6 ft depth.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.70 ft above land-surface datum, Aug. 4, 1972, Apr. 11, 1985, and Apr. 8, 1991; lowest measured, 10.81 ft below land-surface datum, Oct. 29, 1968.

392200078532001 Local number Min-0173

LOCATION.--Lat 39°21'59.9", long 78°53'19.9" referenced to North American Datum of 1983, Mineral County, WV, Hydrologic Unit 02070002, at Larenim Park, about 3 miles north of Burlington.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Marcellus Shale. Diameter 6 in., top of first opening 18 ft, depth 240 ft.

DATUM.--Land-surface datum is approximately 779.39 ft above NAVD 88 (VERTCON conversion of 780 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 2.33 ft above land-surface datum, Sep. 1, 2004, to present.

PERIOD OF RECORD.--September 2004 to September 2008 (daily water level at noon).

GAGE.--Water-level recorder with satellite telemeter.

REMARKS.--Well log data available.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.49 ft below land-surface datum, Apr. 4-7, 2005; lowest, 27.12 ft below land-surface datum, Oct. 26, 27, 2007.

393018078455301 Local number Min-0158

LOCATION.--Lat 39°30'18", long 78°45'53" referenced to North American Datum of 1927, Mineral County, WV, Hydrologic Unit 02070002, at Mineral County School, Fort Ashby.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers. Drilled unused water-table well, diameter 10 in., depth 96 ft, cased with steel.

DATUM.--Land-surface datum is approximately 599.33 ft above NAVD 88 (VERTCON conversion of 600 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 1.5 ft below land-surface datum.

PERIOD OF RECORD.--August 1968 to May 1978 (weekly water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.86 ft below land-surface datum, May 17, 1978; lowest measured, 14.08 ft below land-surface datum, Sept. 21, 1977.

373554081493401 Local number Mig-0131

LOCATION.--Lat 37°35'54", long 81°49'34" referenced to North American Datum of 1927, Mingo County, WV, Hydrologic Unit 05070101, downstream of toe of R. D. Bailey Dam northeast of Justice.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Drilled unused water-table well, diameter 8 in., depth 66 ft, cased with steel.

DATUM.--Land-surface datum is approximately 919.32 ft above NAVD 88 (VERTCON conversion of 920 ft above NGVD 29, from topographic map).
Measuring point: Top edge of recorder shelter floor, 1.57 ft above land-surface datum. Prior to Nov. 18, 1999, measuring point was top edge of recorder shelter floor, 1.06 ft above land-surface datum.

PERIOD OF RECORD.--March to May 1980 (periodic water level), June 1980 to September 2006 (daily water level at noon).

GAGE.--Water-level recorder. No instrumentation prior to June 1980.

REMARKS.--At times, water level affected by Guyandotte River.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.78 ft below land-surface datum, Feb. 7, 2004; lowest, 44.29 ft below land-surface datum, Oct. 6, 1982.

392923079571801 Local number Mng-0548

LOCATION.--Lat 39°29'23", long 79°57'18" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020003, 1.0 mi northwest of Halleck on County Route 87.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Conemaugh Formation. Drilled unused water-table well, diameter 6 in., depth 141 ft, cased with steel to 21 ft.

DATUM.--Land-surface datum is approximately 1,849.59 ft above NAVD 88 (VERTCON conversion of 1,850 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 0.35 ft above land-surface datum.

PERIOD OF RECORD.--March 1953 to August 1977 (periodic water level), September 1978 to November 1985 (daily water level at noon), December 1985 to August 1998 (periodic water level).

GAGE.--Water-level recorder September 1977 to November 1985; periodic measurements by USGS personnel March 1953 to August 1977, and December 1985 to August 1998.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 40.95 ft below land-surface datum, Jan. 4, 1960; lowest measured, 84.10 ft below land-surface datum, Oct. 31, 1995.

393411079502301 Local number Mng-0047

LOCATION.--Lat 39°34'11", long 79°50'23" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020003.

GROUNDWATER RECORDS

PERIOD OF RECORD.--September 1941 to July 1966 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.90 ft below land-surface datum, Jan. 28, 1952; lowest, 33.77 ft below land-surface datum, Sept. 3, 1946.

393733079573601 Local number Mng-0204

LOCATION.--Lat 39°37'33", long 79°57'36" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020003.

GROUNDWATER RECORDS

PERIOD OF RECORD.--October 1943 to February 1953 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.10 ft below land-surface datum, Jan. 20, 1947; lowest, 15.90 ft below land-surface datum, Sept. 9, 1946, Sept. 5, 12, 1950.

393737079572901 Local number Mng-0209

LOCATION.--Lat 39°37'37", long 79°57'29" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020003.

GROUNDWATER RECORDS

PERIOD OF RECORD.--September 1941 to March 1966 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 65.59 ft below land-surface datum, Sept. 29, 1961; lowest, 166.41 ft below land-surface datum, Sept. 10, 1945.

393946079571901 Local number Mng-0373

LOCATION.--Lat 39°39'46", long 79°57'19" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020003.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers.

DATUM.--Land-surface datum is approximately 1,114.62 ft above NAVD 88 (VERTCON conversion of 1,115 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--October 1941 to July 1942 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.17 ft below land-surface datum, Mar. 16, 1942; lowest, 11.49 ft below land-surface datum, Oct. 5, 1941.

394006080194801 Local number Mng-0564

LOCATION.--Lat 39°40'06", long 80°19'48" referenced to North American Datum of 1927, Monongalia County, WV, Hydrologic Unit 05020005, 1 mi east of Wadestown on State Route 7.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Dunkard Group. Drilled unused water-table well, diameter 6 in., depth 65 ft, cased with steel.

DATUM.--Land-surface datum is approximately 1,059.41 ft above NAVD 88 (VERTCON conversion of 1,060 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 1.20 ft above land-surface datum.

PERIOD OF RECORD.--July 1971 to September 1995 (weekly water level).

GAGE.--Weekly measurement by observer.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.56 ft below land-surface datum, Jan. 28, 1992; lowest measured, 11.35 ft below land-surface datum, Aug. 6, 1971.

373435080323101 Local number Mnr-0069

LOCATION.--Lat 37°34'35", long 80°32'31" referenced to North American Datum of 1927, Monroe County, WV, Hydrologic Unit 05050002, 1.3 mi south of Union on Secondary State Route 13.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Mississippian aquifers. Drilled water-table well, diameter 6 in., depth 133 ft, cased with steel to 12 ft.

DATUM.--Land-surface datum is approximately 2,049.52 ft above NAVD 88 (VERTCON conversion of 2,050 ft above NGVD 29, from topographic map).
Measuring point: Top of sanitary seal on casing, 0.6 ft above land-surface datum.

PERIOD OF RECORD.--February 1971 (miscellaneous water level), August 1971 to December 1980 (weekly water level).

REMARKS.--Well affected by pumping.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.60 ft below land-surface datum, Mar. 1, 1972; lowest measured, 53.36 ft below land-surface datum, Oct. 20, 1971.

392911078234501 Local number Mrg-0059

LOCATION.--Lat 39°29'11", long 78°23'45" referenced to North American Datum of 1927, Morgan County, WV, Hydrologic Unit 02070003.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Chemung Formation.

DATUM.--Land-surface datum is approximately 744.37 ft above NAVD 88 (VERTCON conversion of 745 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--December 1967 to June 1968 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 60.94 ft below land-surface datum, June 3, 1968; lowest, 67.70 ft below land-surface datum, Dec. 13, 1967.

393043078174001 Local number Mrg-0057

LOCATION.--Lat 39°30'43", long 78°17'40" referenced to North American Datum of 1927, Morgan County, WV, Hydrologic Unit 02070004, in Cacapon State Park south of Berkeley Springs on U.S. Route 522.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Tonoloway Limestone. Drilled unused artesian well, diameter 8 in., reported depth 250 ft, cased with steel to 33 ft.

DATUM.--Land-surface datum is approximately 874.40 ft above NAVD 88 (VERTCON conversion of 875 ft above NGVD 29, from topographic map).
Measuring point: Top edge of recorder shelf base, 1.10 ft above land-surface datum. Prior to Aug. 16, 1977, measuring point was 1.20 ft above land-surface datum.

PERIOD OF RECORD.--July 1971 to July 1973, and November 1974 to March 1975 (weekly water level), July 1976 to July 1977 (monthly water level), August 1977 to January 1999 (daily water level at noon).

GAGE.--Weekly measurement by observer 1971-75, monthly measurement by USGS personnel 1976-77, water-level recorder December 1977 to January 1999.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.03 ft below land-surface datum, Mar. 4, 1993; lowest measured, 40.66 ft below land-surface datum, Dec. 28, 1998.

393804078090401 Local number Mrg-0047

LOCATION.--Lat 39°38'04", long 78°09'04" referenced to North American Datum of 1927, Morgan County, WV, Hydrologic Unit 02070004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Chemung Formation.

PERIOD OF RECORD.--December 1967 to April 1968 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 71.80 ft below land-surface datum, Apr. 25, 1968; lowest, 73.39 ft below land-surface datum, Apr. 2, 1968.

381222080562601 Local number Nic-0052

LOCATION.--Lat 38°12'22", long 80°56'26" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, New River Formation. Depth 250 ft.

DATUM.--Land-surface datum is approximately 1,679.42 ft above NAVD 88 (VERTCON conversion of 1,680.00 ft above NGVD 29).

PERIOD OF RECORD.--December 1979 to January 1981 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 134.50 ft below land-surface datum, Apr. 14, 1980; lowest, 192.85 ft below land-surface datum, Jan. 5, 1981.

381301080562201 Local number Nic-0051

LOCATION.--Lat 38°13'01", long 80°56'22" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, on Carnifex Ferry Battlefield State Park on Secondary State Route 23.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 106 ft, cased with steel.

DATUM.--Land-surface datum is approximately 1,619.42 ft above NAVD 88 (VERTCON conversion of 1,620 ft above NGVD 29, from topographic map).
Measuring point: Top of concrete slab at land-surface datum.

PERIOD OF RECORD.--December 1970 to August 1976 (weekly water level), April 1978 (miscellaneous water level).

GAGE.--Weekly measurement December 1970 to August 1976, miscellaneous measurement April 1978.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.30 ft below land-surface datum, Dec. 23, 1970; lowest measured, 59.95 ft below land-surface datum, Mar. 10, 1976.

381513081094201 Local number Nic-0198

LOCATION.--Lat 38°15'13", long 81°09'42" referenced to North American Datum of 1927, Nicholas County, WV, Hydrologic Unit 05050005, about 3 mi east of Belva and Route 16 on left of Secondary Route 20/21.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers. Drilled unused water-table well, diameter 6 in., depth 95 ft, cased with galvanized iron to 13 ft.

DATUM.--Land-surface datum is 741.95 ft above NAVD 88 (VERTCON conversion of 742.57 ft above NGVD 29). Measuring point: Top of casing, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1982 to June 2001 (daily water level at noon).

GAGE.--Water-level recorder.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.71 ft below land-surface datum, Jan. 8, 1994; lowest, 12.71 ft below land-surface datum, Aug. 21, 1987.

400205080434301 Local number Ohi-0023

LOCATION.--Lat 40°02'05", long 80°43'43" referenced to North American Datum of 1927, Ohio County, WV, Hydrologic Unit 05030106.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is approximately 644.48 ft above NAVD 88 (VERTCON conversion of 645 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--December 1949 to May 1950 (daily water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.49 ft below land-surface datum, Mar. 30, 1950; lowest, 35.54 ft below land-surface datum, Dec. 11, 1949.

400205080434303 Local number Ohi-0025

LOCATION.--Lat 40°02'05", long 80°43'43" referenced to North American Datum of 1927, Ohio County, WV, Hydrologic Unit 05030106.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is approximately 644.48 ft above NAVD 88 (VERTCON conversion of 645 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--June to November 1950 (weekly water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.46 ft below land-surface datum, Nov. 4, 12, 1950; lowest, 23.66 ft below land-surface datum, Oct. 28, 1950.

400515080355601 Local number Ohi-0157

LOCATION.--Lat 40°05'15", long 80°35'56" referenced to North American Datum of 1927, Ohio County, WV, Hydrologic Unit 05030106.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is 1,252.69 ft above NAVD 88 (VERTCON conversion of 1,253.19 ft above NGVD 29).

PERIOD OF RECORD.--September 1960 to November 1962 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.96 ft below land-surface datum, Apr. 24, 1961; lowest, 121.08 ft below land-surface datum, Nov. 1, 1961.

400545080364601 Local number Ohi-0174

LOCATION.--Lat 40°05'45", long 80°36'46" referenced to North American Datum of 1927, Ohio County, WV, Hydrologic Unit 05030106.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is approximately 1,099.50 ft above NAVD 88 (VERTCON conversion of 1,100 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--November 1960 to November 1962 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.64 ft below land-surface datum, Apr. 24, 1961; lowest, 8.20 ft below land-surface datum, Aug. 3, 1962.

385008079222801 Local number Pen-0133

LOCATION.--Lat 38°50'08", long 79°22'28" referenced to North American Datum of 1927, Pendleton County, WV, Hydrologic Unit 02070001.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers.

DATUM.--Land-surface datum is approximately 1,519.58 ft above NAVD 88 (VERTCON conversion of 1,520 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--September 1966 to June 1968 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.07 ft below land-surface datum, June 3, 1968; lowest, 16.13 ft below land-surface datum, Feb. 26, 1968.

380630080074401 Local number Poc-0132

LOCATION.--Lat 38°06'30", long 80°07'44" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, in Watoga State Park, 7 mi southwest of Huntersville on Secondary State Route 21.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Upper-Middle Devonian Series. Drilled unused water-table well, diameter 6 in., reported depth 285 ft, cased with steel.

DATUM.--Land-surface datum is approximately 3,049.79 ft above NAVD 88 (VERTCON conversion of 3,050 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 0.85 ft above land-surface datum.

PERIOD OF RECORD.--December 1970 to November 1975 (weekly water level), April 1978 to September 1980 (periodic water level).

GAGE.--Weekly measurement December 1970 to November 1975, periodic measurement April 1978 to September 1980.

REMARKS.--Well depth measured 48 ft May 1980.

EXTREMES FOR PERIOD OF RECORD.--highest water level measured, 15.35 ft below land-surface datum, July 27, 1971; lowest measured, 22.87 ft below land-surface datum, Oct. 30, 1973.

380653080155301 Local number Poc-0256

LOCATION.--Lat 38°06'53", long 80°15'53" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, on Droop Mountain State Park north of Droop on U.S. Route 219.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Mississippian aquifers. Diameter 6 in., depth 86 ft.

DATUM.--Land-surface datum is approximately 2,999.71 ft above NAVD 88 (VERTCON conversion of 3,000 ft above NGVD 29, from topographic map).
Measuring point: Top edge of recorder shelter floor, 1.92 ft above land-surface datum, July 8, 2004, to present. July 7, 1983 to July 7, 2004, measuring point was top edge of casing at land surface datum. May 28, 1980 to July 6, 1983, measuring point was top edge of recorder shelter floor 0.65 ft above land-surface datum. Prior to May 28, 1980, the measuring point was the top edge of casing at land-surface datum.

PERIOD OF RECORD.--December 1970 to January 1976 (weekly water level), and April 1978 to April 1980 (periodic water level), May 1980 to January 1982, and May 1982 to September 2008 (daily water level at noon). Published as local well number "44-4-1", 1973-78.

REVISED RECORDS.--WDR WV-79-1: Well location, well characteristics, and water levels. WDR WV-83-1: Station identification number and lowest water level.

GAGE.--Water-level recorder. No instrumentation prior to May 1980.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.86 ft below land-surface datum, May 30, 1982; lowest, 70.42 ft below land-surface datum, Oct. 21, 22, 2007 (73.39 ft below land-surface datum, Oct. 25, 1984, due to pumping).

380708080102201 Local number Poc-0131

LOCATION.--Lat 38°07'08", long 80°10'22" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050003, at Watoga State Park, on Secondary State Route 21, 7 mi southwest of Huntersville.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers. Drilled unused water-table well, diameter 8 in., depth 53 ft, cased with steel.

DATUM.--Land-surface datum is approximately 2,099.73 ft above NAVD 88 (VERTCON conversion of 2,100 ft above NGVD 29, from topographic map).
Measuring point: Top of steel on casing, 0.55 ft above land-surface datum.

PERIOD OF RECORD.--December 1970 to November 1975.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.65 ft below land-surface datum, Apr. 15, 1975; lowest measured, 12.11 ft below land-surface datum, Aug. 5, 1975.

381102080150901 Local number Poc-0135

LOCATION.--Lat 38°11'02", long 80°15'09" referenced to North American Datum of 1927, Pocahontas County, WV, Hydrologic Unit 05050005.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Mississippian aquifers, Hinton Formation. Diameter 6 in., top of first opening 21.5 ft, depth 173 ft.

DATUM.--Land-surface datum is approximately 3,579.77 ft above NAVD 88 (VERTCON conversion of 3,580.00 ft above NGVD 29).

PERIOD OF RECORD.--December 1979 to April 1980 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 73.50 ft below land-surface datum, Jan. 29, 1980; lowest, 78.17 ft below land-surface datum, Mar. 14, 1980.

392053079400401 Local number Pre-0122

LOCATION.--Lat 39°20'53", long 79°40'04" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020004, on left bank of Cheat River downstream from Rowlesburg Water Plant.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Upper-Middle Devonian Series. Drilled unused water-table well, diameter 8 in., depth 104 ft, cased with steel.

DATUM.--Land-surface datum is approximately 1,399.34 ft above NAVD 88 (VERTCON conversion of 1,400 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 1.6 ft above land-surface datum, Mar. 29, 1971, to present.

PERIOD OF RECORD.--March 1971 (miscellaneous water level), April 1971 to January 1977 (daily water level), January 1977 to June 1978 (monthly water level).

REMARKS.--Water level affected by stage of Cheat River. Well found plugged August 1978.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.64 ft below land-surface datum, Dec. 9, 1972; lowest, 14.84 ft below land-surface datum, Aug. 16, 1975.

392612079322704 Local number Pre-0036

LOCATION.--Lat 39°26'12", long 79°32'27" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020006.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers.

DATUM.--Land-surface datum is approximately 2,534.54 ft above NAVD 88 (VERTCON conversion of 2,535 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--January 1949 to March 1950 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.16 ft below land-surface datum, Jan. 26, 1949; lowest, 18.1[0-9] ft below land-surface datum, Oct. 5, 1949.

392627079310501 Local number Pre-0040

LOCATION.--Lat 39°26'27", long 79°31'05" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020006.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Mississippian aquifers.

DATUM.--Land-surface datum is approximately 3,019.54 ft above NAVD 88 (VERTCON conversion of 3,020 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--January 1954 to January 1956 (weekly water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.91 ft below land-surface datum, Jan. 25, 1956; lowest, 3.00 ft below land-surface datum, July 28, 1954.

393012079502201 Local number Pre-0062

LOCATION.--Lat 39°30'12", long 79°50'22" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020003.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers.

DATUM.--Land-surface datum is approximately 1,769.58 ft above NAVD 88 (VERTCON conversion of 1,770 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--August 1950 to May 1951 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 18.62 ft below land-surface datum, Nov. 7, 1950; lowest, 23.20 ft below land-surface datum, Sept. 12, 1950.

393022079481201 Local number Pre-0064

LOCATION.--Lat 39°30'22", long 79°48'12" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020003.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers.

DATUM.--Land-surface datum is approximately 1,699.59 ft above NAVD 88 (VERTCON conversion of 1,700 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--July 1941 to March 1955 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.74 ft above land-surface datum, Feb. 19, 1943; lowest, 4.25 ft below land-surface datum, Dec. 9, 1941.

393040079435901 Local number Pre-0071

LOCATION.--Lat 39°30'40", long 79°43'59" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020004.

GROUNDWATER RECORDS

PERIOD OF RECORD.--August 1941 to March 1942 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.93 ft below land-surface datum, Jan. 6, 1942; lowest, 46.81 ft below land-surface datum, Dec. 6, 1941.

393258079475101 Local number Pre-0080

LOCATION.--Lat 39°32'58", long 79°47'51" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020003.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is approximately 1,199.60 ft above NAVD 88 (VERTCON conversion of 2,200 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--August 1941 to August 1945 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.42 ft below land-surface datum, Mar. 10, 1942; lowest, 22.91 ft below land-surface datum, Aug. 11, 1941.

393303079474801 Local number Pre-0082

LOCATION.--Lat 39°33'03", long 79°47'48" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020003.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers.

PERIOD OF RECORD.--May 1958 to December 1965 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.47 ft below land-surface datum, Dec. 9, 1958; lowest, 37.43 ft below land-surface datum, Dec. 19, 1963.

393304079490101 Local number Pre-0084

LOCATION.--Lat 39°33'04", long 79°49'01" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020003.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Allegheny Formation.

PERIOD OF RECORD.--August 1941 to June 1942 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.57 ft below land-surface datum, June 24, 1942; lowest, 14.45 ft below land-surface datum, Aug. 28, 1941.

393306079474501 Local number Pre-0123

LOCATION.--Lat 39°33'06", long 79°47'45" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020003, East Depot Street, Masontown.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 8 in., depth 785 ft, cased to 350 ft, perforated at or near Upper Freeport coal. Measured depth approximately 330 ft, September 1984.

DATUM.--Land-surface datum is approximately 1,769.60 ft above NAVD 88 (VERTCON conversion of 1,770 ft above NGVD 29, from topographic map). Measuring point: Top of extended casing, 3.53 ft above land-surface datum. Prior to July 1978, measuring point was 3.00 ft below land-surface datum.

PERIOD OF RECORD.--July 1941 to December 1946, and January 1949 to September 1950 (weekly to monthly water level), October 1950 to September 1995 (monthly water level).

GAGE.--Weekly to monthly measurement by observer July 1941 to December 1946, and January 1949 to September 1950; monthly measurement by USGS personnel October 1950 to September 1995. Water-level recorder 1946-48, but records lost.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.15 ft below land-surface datum, Jan. 20, 1947; lowest measured, 108 ft below land-surface datum, Feb. 3, 1959.

393306079485801 Local number Pre-0085

LOCATION.--Lat 39°33'06", long 79°48'58" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020003.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Allegheny Formation.

DATUM.--Land-surface datum is approximately 1,725.62 ft above NAVD 88 (VERTCON conversion of 1,726 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--September 1941 to June 1942 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.36 ft below land-surface datum, Mar. 10, 1942; lowest, 21.15 ft below land-surface datum, Oct. 28, 1941.

393326079481601 Local number Pre-0088

LOCATION.--Lat 39°33'26", long 79°48'16" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020003.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers.

PERIOD OF RECORD.--August 1941 to December 1947 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.23 ft below land-surface datum, May 31, 1943; lowest, 21.10 ft below land-surface datum, Aug. 26, 1945.

393326079481602 Local number Pre-0089

LOCATION.--Lat 39°33'26", long 79°48'16" referenced to North American Datum of 1927, Preston County, WV, Hydrologic Unit 05020003.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is approximately 1,694.61 ft above NAVD 88 (VERTCON conversion of 1,695 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--September 1941 to August 1946 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.20 ft below land-surface datum, May 31, 1943; lowest, 9.45 ft below land-surface datum, June 30, 1943.

382545081553101 Local number Put-0969

LOCATION.--Lat 38°25'45", long 81°55'31" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008, about 2 mi south of I-64 Winfield exit on Poplar Fork Road.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Conemaugh Formation. Drilled water-table well, diameter 6 in., depth 102 ft, cased with steel.

DATUM.--Land-surface datum is approximately 749.40 ft above NAVD 88 (VERTCON conversion of 750 ft above NGVD 29, from topographic map).
Measuring point: Top of casing 1.20 ft above land-surface datum.

PERIOD OF RECORD.--June 1985 to June 1987 (daily water level at noon).

GAGE.--Water-level recorder.

REMARKS.--Data collection discontinued because owner wished to begin using the well.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 35.23 ft below land-surface datum, Feb. 9, 1986; lowest, 37.90 ft below land-surface datum, Aug. 9, 1986.

382559082015001 Local number Put-0189

LOCATION.--Lat 38°25'59", long 82°01'50" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Conemaugh Formation.

DATUM.--Land-surface datum is approximately 679.40 ft above NAVD 88 (VERTCON conversion of 680 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--March 1959 to March 1960 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.48 ft below land-surface datum, Mar. 11, 1960; lowest measured, 35.14 ft below land-surface datum, July 15, 1959.

382610082012002 Local number Put-0217

LOCATION.--Lat 38°26'10", long 82°01'20" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is approximately 689.39 ft above NAVD 88 (VERTCON conversion of 690 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--March 1959 to May 1962 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.15 ft below land-surface datum, Dec. 4, 1959; lowest measured, 7.00 ft below land-surface datum, Sept. 19, 1961.

382631081512100 Local number Put-0244

LOCATION.--Lat 38°26'31", long 81°51'21" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers.

DATUM.--Land-surface datum is approximately 684.35 ft above NAVD 88 (VERTCON conversion of 685 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--January 1959 to January 1962 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 91.85 ft below land-surface datum, Jan. 4, 1962; lowest measured, 98.51 ft below land-surface datum, Jan. 19, 1959.

383153081554001 Local number Put-0621

LOCATION.--Lat 38°31'53", long 81°55'40" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Alluvial aquifers, Holocene Alluvium.

DATUM.--Land-surface datum is approximately 575.36 ft above NAVD 88 (VERTCON conversion of 576 ft above NGVD 29).

PERIOD OF RECORD.--February 1959 to December 1960 (lowest daily water level), January 1961 to May 1962 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.62 ft below land-surface datum, Mar. 12, 1962; lowest, 32.27 ft below land-surface datum, Nov. 16, 1960.

383334081512301 Local number Put-0686

LOCATION.--Lat 38°33'34", long 81°51'23" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is approximately 989.36 ft above NAVD 88 (VERTCON conversion of 990 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--January 1959 to May 1962 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.11 ft below land-surface datum, Mar. 12, 1962; lowest measured, 46.54 ft below land-surface datum, Oct. 15, 1959, and Nov. 4, 1960.

383415081584801 Local number Put-0714

LOCATION.--Lat 38°34'15", long 81°58'48" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Conemaugh Formation.

DATUM.--Land-surface datum is approximately 574.41 ft above NAVD 88 (VERTCON conversion of 575 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--November 1942 to April 1945 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 38.59 ft below land-surface datum, Apr. 2, 1945; lowest measured, 45.73 ft below land-surface datum, Sept. 5, 1944.

383552081594301 Local number Put-0780

LOCATION.--Lat 38°35'52", long 81°59'43" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Conemaugh Formation.

DATUM.--Land-surface datum is approximately 579.46 ft above NAVD 88 (VERTCON conversion of 580 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--November 1942 to April 1945 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.85 ft below land-surface datum, Apr. 2, 1945; lowest measured, 33.54 ft below land-surface datum, Nov. 2, 1942.

383650081585901 Local number Put-0813

LOCATION.--Lat 38°36'50", long 81°58'59" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Alluvial aquifers, Holocene Alluvium.

DATUM.--Land-surface datum is approximately 569.43 ft above NAVD 88 (VERTCON conversion of 570 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--May 1943 to September 1950 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level observed, at top of well 0.40 ft above land-surface datum, Jan. 22, Dec. 10, 24, 1949; lowest measured, 17.85 ft below land-surface datum, Aug. 10, 1946.

383658081585401 Local number Put-0817

LOCATION.--Lat 38°36'58", long 81°58'54" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Conemaugh Formation.

DATUM.--Land-surface datum is approximately 574.42 ft above NAVD 88 (VERTCON conversion of 575 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--April 1945 to March 1950 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.08 ft below land-surface datum, Apr. 9, 1945; lowest , well observed dry several days October to December, 1948.

383701081584801 Local number Put-0820

LOCATION.--Lat 38°37'01", long 81°58'48" referenced to North American Datum of 1927, Putnam County, WV, Hydrologic Unit 05050008.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Conemaugh Formation.

DATUM.--Land-surface datum is approximately 574.42 ft above NAVD 88 (VERTCON conversion of 575 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--May 1943 to March 1945 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 56.47 ft below land-surface datum, Mar. 9, 1945; lowest measured, 73.80 ft below land-surface datum, July 5, 1944.

374607081122201 Local number Ral-0152

LOCATION.--Lat 37°46'07", long 81°12'22" referenced to North American Datum of 1927, Raleigh County, WV, Hydrologic Unit 05050004, near State Route 16, Mabscott.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, New River Formation. Drilled unused artesian well, diameter 8 in., depth 475 ft.

DATUM.--Land-surface datum approximately 2,284.50 ft above NAVD 88 (VERTCON conversion of 2,285 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 1 ft above land-surface datum.

PERIOD OF RECORD.--August and September 1959 (periodic water level), November 1959 to July 1962 (daily water level), December 1962 to December 1976 (weekly water level), April 1978 and May 1979 (miscellaneous water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 13.03 ft below land-surface datum, Dec. 27, 1972; lowest measured, 37.13 ft below land-surface datum, Dec. 15, 1965.

383931079595901 Local number Ran-0045

LOCATION.--Lat 38°39'31", long 79°59'59" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, at Catholic Conference Center, Huttonsville.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Drilled used water-table well, diameter 6 in., depth 64 ft, cased with steel.

DATUM.--Land-surface datum is approximately 2,089.50 ft above NAVD 88 (VERTCON conversion of 2,090 ft above NGVD 29). Measuring point: Top of casing 0.93 ft above land-surface datum.

PERIOD OF RECORD.—November 1972 to February 1973.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.07 ft below land-surface datum, Nov. 20, 1972; lowest, 3.86 ft below land-surface datum, Nov. 10, 1972.

385059079522901 Local number Ran-0232

LOCATION.--Lat 38°50'59", long 79°52'29" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, 1,800 ft west of U.S. Route 250, 0.6 mi north of intersection of State Route 33 and U.S. Route 250, at Beverly.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Upper-Middle Devonian Series. Drilled unused artesian well, diameter 6 in., depth 96 ft, cased with plastic to 14 ft.

DATUM.--Land-surface datum is approximately 1,939.48 ft above NAVD 88 (VERTCON conversion of 1,940 ft above NGVD 29, from topographic map). Measuring point: Top of casing, 2.0 ft above land-surface datum, Nov. 14, 1978, to present.

PERIOD OF RECORD.--November 1979 to August 1980 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 1.57 ft below land-surface datum, Jan. 3, 1980; lowest measured, 1.85 ft below land-surface datum, Nov. 1, 1979.

385100079522901 Local number Ran-0233

LOCATION.--Lat 38°51'00", long 79°52'29" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, 1,800 ft west of U.S. Route 250, and 0.6 mi north of intersection of State Route 33 and U.S. Route 250, at Beverly.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Valley and Ridge aquifers, Upper-Middle Devonian Series. Drilled unused artesian well, diameter 6 in., depth 98 ft, cased with plastic to 14 ft.

DATUM.--Land-surface datum is approximately 1,939.48 ft above NAVD 88 (VERTCON conversion of 1,940 ft above NGVD 29, from topographic map). Measuring point: Top of casing 3.00 ft above land-surface datum.

PERIOD OF RECORD.--December 1978 (periodic water level), November 1979 to September 1982 (daily noon water level), October 1982 to September 1995 (periodic water level).

REMARKS.--At times, water level affected by stage of Tygart Valley River.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.00 ft above land-surface datum, Mar. 20, 1982; lowest, 4.84 ft below land-surface datum, Sept. 11, 1995.

385341079575401 Local number Ran-0251

LOCATION.--Lat 38°53'42", long 79°57'56" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit 05020001, 0.2 mi east of Coalton High School, Coalton.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Drilled exploratory water-table well, diameter 6 in., depth 155 ft, cased to 18 ft.

DATUM.--Land-surface datum is approximately 2,170.51 ft above NAVD 88 (VERTCON conversion of 2,171 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 1.60 ft above land-surface datum. Prior to Jan. 4, 1983, measuring point was 2.45 ft above land-surface datum.

PERIOD OF RECORD.--October 1966 to October 1967 (monthly water level), February 1978 to September 1995 (periodic water-level).

GAGE.--Monthly measurement by USGS personnel 1966-67; water-level recorder 1968-77; periodic measurement by USGS personnel 1977-95.

REMARKS.--Water level affected by nearby pumping.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.85 ft below land-surface datum, Dec. 12, 1966; lowest, 23.35 ft below land-surface datum, Oct. 28, 1971.

385509079311401 Local number Ran-0283

LOCATION.--Lat 38°55'09", long 79°31'14" referenced to North American Datum of 1927, Randolph County, WV, Hydrologic Unit is unknown, on U.S. Route 33 at Harman.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pocono Formation. Drilled artesian well, diameter 6 in., depth 67 ft, cased with steel.

DATUM.--Land-surface datum is approximately 2,389.53 ft above NAVD 88 (VERCON conversion of 2,390 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 1.4 ft above land-surface datum.

PERIOD OF RECORD.--July 1971 to August 1973, September to October 1976 (weekly water level), April 1977 (miscellaneous water level).

REMARKS.--Water level affected by nearby pumping.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.75 ft below land-surface datum, Jan. 5, 1973, Oct. 8, 1976; lowest measured, 12.46 ft below land-surface datum, July 9, 1971.

391226081024901 Local number Rit-0114

LOCATION.--Lat 39°12'26", long 81°02'49" referenced to North American Datum of 1927, Ritchie County, WV, Hydrologic Unit 05030203, at Stout and East South Street, Harrisville.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Dunkard Group. Drilled unused artesian well, diameter 6 in., depth 118 ft, cased with steel.

DATUM.--Land-surface datum is approximately 839.44 ft above NAVD 88 (VERTCON conversion of 840 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 1.20 ft above land-surface datum.

PERIOD OF RECORD.--April 1970 (miscellaneous water-level), September 1973 to September 1995, and July 1976 to October 1995 (daily water level at noon).

GAGE.--Weekly measurements by observer, 1966; water-level recorder, 1968-75; monthly measurements by USGS personnel, 1975-76; water-level recorder 1976-95.

REMARKS.--Formerly public-supply well.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.46 ft below land-surface datum, Jan. 25, 1978; lowest measured, 22.03 ft below land-surface datum, July 18, 1988.

391303081060101 Local number Rit-0071

LOCATION.--Lat 39°13'03", long 81°06'01" referenced to North American Datum of 1927, Ritchie County, WV, Hydrologic Unit 05030203, at North Bend State Park.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers. Drilled unused water-table well, diameter 8 in., depth 198 ft, cased with steel.

DATUM.--Land-surface datum is approximately 719.43 ft above NAVD 88 (VERTCON conversion of 720 ft above NGVD 29). Measuring point: Top of casing, 1.85 ft above land-surface datum.

PERIOD OF RECORD.--1971-72.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 30.65 ft below land-surface datum, Sept. 28, 1971; lowest, 32.12 ft below land-surface datum, Oct. 12, 1972.

391734080011901 Local number Tay-0026

LOCATION.--Lat 39°17'34", long 80°01'19" referenced to North American Datum of 1927, Taylor County, WV, Hydrologic Unit 05020001.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers.

DATUM.--Land-surface datum is approximately 1,169.38 ft above NAVD 88 (VERTCON conversion of 1,170 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--May to December 1971 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 47.64 ft below land-surface datum, Sept. 15, 1971; lowest measured, 55.60 ft below land-surface datum, Sept. 9, 1971.

390121079274901 Local number Tuc-0079

LOCATION.--Lat 39°01'21", long 79°27'49" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Mississippian aquifers, Greenbrier Limestone. Diameter 4 in., depth 33 ft.

DATUM.--Land-surface datum is approximately 3,262.60 ft above NAVD 88 (VERTCON conversion of 2,263 ft above NGVD 29).

PERIOD OF RECORD.--February 1991 to June 1993 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.06 ft below land-surface datum, Mar. 24, 1991; lowest, 23.15 ft below land-surface datum, Oct. 25 to Nov. 14, 1992 (float may have been hung).

390122079264301 Local number Tuc-0080

LOCATION.--Lat 39°01'22", long 79°26'43" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Mississippian aquifers, Greenbrier Limestone. Diameter 6 in., depth 42 ft.

DATUM.--Land-surface datum is approximately 3,281.61 ft above NAVD 88 (VERTCON conversion of 3,282 ft above NGVD 29).

PERIOD OF RECORD.--April 1991 to June 1993 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 24.70 ft below land-surface datum, Mar. 28, 1993; lowest, greater than 29.5 ft below land-surface datum many days (water-level data questionable at depths greater than 29.5 ft).

390135079275601 Local number Tuc-0037

LOCATION.--Lat 39°01'35", long 79°27'56" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004, at Canaan Valley State Park off State Route 32.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Mississippian aquifers, Pocono Formation. Drilled unused artesian well, diameter 8 in., depth 281 ft, cased with steel.

DATUM.--Land-surface datum is approximately 3,274.61 ft above NAVD 88 (VERTCON conversion of 3,275 ft above NGVD 29, from topographic map).
Measuring point: Top of recorder shelf base, 1.60 ft above land-surface datum. Prior to May 29, 1980, measuring point was top of casing, 1.55 ft above land-surface datum.

PERIOD OF RECORD.--June 1971 to December 1975 (weekly water level), April 1978 to May 1980 (periodic water level), June 1980 to February 2000 (daily water level at noon).

GAGE.--Water-level recorder. Periodic measurements by USGS personnel 1978-80. Weekly measurements with chalked tape by observer 1971-75.

REMARKS.--Well discontinued February 2000 due to pumping effects from a nearby production well.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.48 ft below land-surface datum, Nov. 5, 1985; lowest, 13.13 ft below land-surface datum, Sept. 4, 1999.

390605079254201 Local number Tuc-0101

Pennsylvanian aquifers

Pottsville Formation

Tucker County, WV

LOCATION.--Lat 39°06'05", long 79°25'42" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit 05020004.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Diameter 6.00 in., depth 145 ft.

DATUM.--Land-surface datum is approximately 3,709.72 ft above NAVD 88 (VERTCON conversion of 3,710 ft above NGVD 29).

PERIOD OF RECORD.--June 1991 to March 1993, and June 1993 to April 1994 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 68.04 ft below land-surface datum, Mar. 31, 1993; lowest, 80.67 ft below land-surface datum, June 22, 1991.

390642079285101 Local number Tuc-0128

LOCATION.--Lat 39°06'42", long 79°28'51" referenced to North American Datum of 1927, Tucker County, WV, Hydrologic Unit is unknown, at Blackwater Lodge.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Drilled used water-table well, diameter 6 in., reported depth 172 ft, cased with steel to 46 ft.

DATUM.--Land-surface datum is approximately 2,999.70 ft above NAVD 88 (VERTCON conversion of 3,000 ft above NGVD 29, from topographic map).
Measuring point: Top of breather pipe, 1.3 ft above land-surface datum.

PERIOD OF RECORD.--1971-73 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 105.97 ft below land-surface datum, May 20, 1971; lowest measured, 122.40 ft below land-surface datum, July 1, Dec. 16, 23, 1971.

393211081021201 Local number Tyl-0089

LOCATION.--Lat 39°32'11", long 81°02'12" referenced to North American Datum of 1927, Tyler County, WV, Hydrologic Unit 05030201, 2.5 mi southwest of Sistersville along Route 2, 15 ft northwest of gravel road, between railroad and river.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Monongahela Formation. Drilled unused water-table well, diameter 6in., depth 70 ft, cased with steel to 58 ft.

DATUM.--Land-surface datum is approximately 619.48 ft above NAVD 88 (VERTCON conversion of 620 ft above NGVD 29, from topographic map).
Measuring point: Top of well casing 3.90 ft above land-surface datum.

PERIOD OF RECORD.--October 1984 to October 1995 (daily water level at noon).

GAGE.--Water-level recorder.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.05 ft below land-surface datum, Jan. 1, 1991; lowest, 19.38 ft below land-surface datum, Aug. 20, 1985.

393213081021301 Local number Tyl-0088

LOCATION.--Lat 39°32'13", long 81°02'13" referenced to North American Datum of 1927, Tyler County, WV, Hydrologic Unit 05030201.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Alluvial aquifers, Holocene Alluvium. Diameter 1.50 in., depth 55 ft.

DATUM.--Land-surface datum approximately 619.48 ft above NAVD 88 (VERTCON conversion of 620 ft above NGVD 29).

PERIOD OF RECORD.--August to December 1983, and April to August 1984 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.21 ft below land-surface datum, Aug. 1, 2, 1984; lowest, 23.31 ft below land-surface datum, Sept. 15, 1983.

375827082211501 Local number Way-0118

LOCATION.--Lat 37°58'27", long 82°21'15" referenced to North American Datum of 1927, Wayne County, WV, Hydrologic Unit 05090102, on Cabwaylingo State Forest along Secondary State Route 35.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 119 ft, cased with steel to 10 ft.

DATUM.--Land-surface datum is approximately 739.30 ft above NAVD 88 (VERTCON conversion of 740 ft above NGVD 29). Measuring point: Top of casing cover, 1.33 ft above land-surface datum. Prior to Nov. 27, 1979 measuring point was top of casing, 1.30 ft above land-surface datum.

PERIOD OF RECORD.--February 1971 to August 1995 (weekly water level).

GAGE.--Weekly measurement by observer.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.87 ft below land-surface datum, Oct. 18, 1989; lowest measured, 32.17 ft below land-surface datum, July 21, 1982.

382205082304501 Local number Way-0144

LOCATION.--Lat 38°22'04.58", long 82°30'44.74" referenced to North American Datum of 1983, Wayne County, WV, Hydrologic Unit 05090102, about 2.0 mi south of Huntington and 1.9 mi east of Tri-State Airport.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Conemaugh Formation. Diameter 6 in., top of first opening 30 ft, depth 105.6 ft.

DATUM.--Land-surface datum is approximately 617.40 ft above NAVD 88 (VERTCON conversion of 618 ft above NGVD 29, from topographic map). Measuring point: Top of extended casing, 3.14 ft above land-surface datum, Mar. 29, 2001, to present.

PERIOD OF RECORD.--May 2001 to September 2008 (daily water level at noon).

GAGE.--Water-level recorder.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 31.35 ft below land-surface datum, Apr. 22, 23, 26, 2005; lowest, 37.15 ft below land-surface datum, Mar. 9, 10, 2002.

382008080292801 Local number Web-0167

LOCATION.--Lat 38°20'08", long 80°29'28" referenced to North American Datum of 1927, Webster County, WV, Hydrologic Unit 05050005, at Bishop Knob Campground about 0.50 mi from junction of U.S. Forest Service Roads 81 and 82 and about 4 mi from Dyer.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Kanawha Formation. Diameter 6 in., top of first opening 60 ft, depth 80 ft.

DATUM.--Land-surface datum is approximately 3,099.60 ft above NAVD 88 (VERTCON conversion of 3,100 ft above NGVD 29, from topographic map). Measuring point: Top of extended casing, 2.00 ft above land-surface datum, Mar. 1, 1980, to present.

PERIOD OF RECORD.--March 1980 to September 1982 (periodic water level), October 1982 to September 2008 (daily water level at noon).

GAGE.--Water-level recorder with satellite telemeter. No instrumentation prior to October 1982.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.00 ft below land-surface datum, Dec. 5, 1996; lowest, 28.01 ft below land-surface datum, Oct. 17, 1995.

382254080271501 Local number Web-0166

LOCATION.--Lat 38°22'54", long 80°27'15" referenced to North American Datum of 1927, Webster County, WV, Hydrologic Unit 05050005, on Secondary State Route 46/2 near Dyer.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Mississippian aquifers, Mauch Chunk Formation. Drilled unused artesian well, diameter 6 in., depth 48 ft, cased with steel.

DATUM.--Land-surface datum is approximately 2,229.57 ft above NAVD 88 (VERTCON conversion of 2,230 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 1.5 ft above land-surface datum, Sep. 22, 1971, to present.

PERIOD OF RECORD.--November 1971 to April 1981 (weekly water level).

REMARKS.--Well affected by pumping at times.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.70 ft below land-surface datum, July 5, 1972; lowest measured, 7.80 ft below land-surface datum, June 16, 1976.

392858080373401 Local number Wet-0073

LOCATION.--Lat 39°28'58", long 80°37'34" referenced to North American Datum of 1927, Wetzel County, WV, Hydrologic Unit 05030201, on Secondary State Route 82 in Lewis-Wetzel Public Hunting Area near Jacksonburg.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.—Pennsylvanian aquifers. Drilled unused water-table well, diameter 6 in., depth 76 ft, cased with steel.

DATUM.--Land-surface datum is approximately 889.48 ft above NAVD 88 (VERTCON conversion of 890 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 1.10 ft above land-surface datum.

PERIOD OF RECORD.--May 1971 (miscellaneous water level), September 1971 to September 1986 (weekly water level).

GAGE.--Miscellaneous measurement by USGS personnel May 1971, weekly measurement by observer September 1971 to September 1986.

REMARKS.--Well found filled with rocks April 1987 and no longer suitable for water-level measurement.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.10 ft below land-surface datum, Nov. 28, 1973; lowest measured, 20.90 ft below land-surface datum, Oct. 5, 1977.

393355080404401 Local number Wet-0005

LOCATION.--Lat 39°33'55", long 80°40'44" referenced to North American Datum of 1927, Wetzel County, WV, Hydrologic Unit 05030201.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is approximately 634.46 ft above NAVD 88 (VERTCON conversion of 635 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--September 1942 to August 1944 (periodic water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.16 ft below land-surface datum, Mar. 24, 1943; lowest, 9.39 ft below land-surface datum, June 9, 1944.

393953080255201 Local number Wet-0025

LOCATION.--Lat 39°39'53", long 80°25'52" referenced to North American Datum of 1927, Wetzel County, WV, Hydrologic Unit 05030106.

GROUNDWATER RECORDS

DATUM.--Land-surface datum is approximately 1,067.52 ft above NAVD 88 (VERTCON conversion of 1,068 ft above NGVD 29, from topographic map).

PERIOD OF RECORD.--November 1953 to January 1955 (periodic water level), July 1955 to April 1959 (weekly water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.14 ft below land-surface datum, July 15, 1958; lowest, 13.48 ft below land-surface datum, July 13, 1955.

391711081333401 Local number Woo-0102

LOCATION.--Lat 39°17'11", long 81°33'34" referenced to North American Datum of 1927, Wood County, WV, Hydrologic Unit 05030202.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Diameter 27 in., depth 55 ft.

DATUM.--Land-surface datum approximately 601.39 ft above NAVD 88 (VERTCON conversion of 602 ft above NGVD 29).

PERIOD OF RECORD.--June to August 1990 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 25.69 ft below land-surface datum, July 14, 1990; lowest, 28.03 ft below land-surface datum, Aug. 21, 1990.

391712081333201 Local number Woo-0162

LOCATION.--Lat 39°17'12", long 81°33'32" referenced to North American Datum of 1927, Wood County, WV, Hydrologic Unit 05030202, near collector well at City of Parkersburg Water Works.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Alluvial aquifers, Holocene Alluvium. Drilled unused water-table well, diameter 5 in., depth 55 ft, cased with steel to 55 ft.

DATUM.--Land-surface datum is approximately 600.39 ft above NAVD 88 (VERTCON conversion of 601 ft above NGVD 29, from topographic map).
Measuring point: Top of casing, 2.94 ft above land-surface datum.

PERIOD OF RECORD.--April 1943 to April 1945 (intermittent water level), January 1946 to December 1968 (daily instantaneous water level), January 1969 to November 1980 (daily water level at noon).

GAGE.--Water-level recorder. Prior to January 1946, intermittent measurements.

REMARKS.--Water level affected by local pumping and by stage of the Ohio River.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.06 ft below land-surface datum (estimated), Feb. 23, 1971; lowest, 37.75 ft below land-surface datum, Feb. 12, 1948.

391715081333701 Local number Woo-0115

LOCATION.--Lat 39°17'15", long 81°33'37" referenced to North American Datum of 1927, Wood County, WV, Hydrologic Unit 05030202.

GROUNDWATER RECORDS

PERIOD OF RECORD.--April 1943 to December 1948, April 1949 to May 1956 (lowest daily water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.15 ft below land-surface datum, Mar. 7, 1945; lowest, 43.43 ft below land-surface datum, Dec. 1, 1947.

391931081325003 Local number Woo-0137

LOCATION.--Lat 39°19'30", long 81°32'51" referenced to North American Datum of 1927, Wood County, WV, Hydrologic Unit 05030202.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Alluvial aquifers, Holocene Alluvium.

PERIOD OF RECORD.--April 1944 to April 1945 (periodic water level), January to December 1946 (lowest daily water level).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.47 ft below land-surface datum, Mar. 29, 1945; lowest, 36.76 ft below land-surface datum, Dec. 27, 1946.

373452081254301 Local number Wyo-0199

LOCATION.--Lat 37°34'52", long 81°25'43" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Diameter 6 in., depth 50 ft.

DATUM.--Land-surface datum is approximately 1,389.46 ft above NAVD 88 (VERTCON conversion of 1,390 ft above NGVD 29).

PERIOD OF RECORD.--June 1978 to March 1979 (daily maximum, minimum, mean, and noon water level), April to November 1979 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.27 ft below land-surface datum, Mar. 7, 1979; lowest, 21.99 ft below land-surface datum, Sept. 2, 1979.

373602081203901 Local number Wyo-0167

LOCATION.--Lat 37°36'02", long 81°20'39" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Diameter 10 in., depth 48 ft.

DATUM.--Land-surface datum is 1,569.46 ft above NAVD 88 (VERTCON conversion of 1,570 ft above NGVD 29).

PERIOD OF RECORD.--June 1978 to November 1979 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.45 ft below land-surface datum, Jan. 8, 1979; lowest, 37.55 ft below land-surface datum, Nov. 5, 1979.

373701081271301 Local number Wyo-0243

LOCATION.--Lat 37°37'01", long 81°27'13" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Depth 101 ft.

DATUM.--Land-surface datum is undefined. Measuring point: Undefined.

PERIOD OF RECORD.--June 1981 to January 1983 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.88 ft below land-surface datum, June 12, 1981; lowest, 30.83 ft below land-surface datum, Oct. 20, 1981.

373710081265501 Local number Wyo-0245

LOCATION.--Lat 37°37'10", long 81°26'55" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Depth 100 ft.

DATUM.--Land-surface datum is undefined. Measuring point: Undefined.

PERIOD OF RECORD.--June 1981 to January 1983 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.29 ft below land-surface datum, Jan. 21, and Oct. 14, 1982; lowest, 30.33 ft below land-surface datum, Oct. 21, 1981.

373749081262701 Local number Wyo-0149

LOCATION.--Lat 37°37'49", long 81°26'27" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Diameter 6.25 in; top of first opening 12.2 ft, depth 101 ft.

DATUM.--Land-surface datum is approximately 1,999.47 ft above NAVD 88 (VERTCON conversion of 2,000 ft above NGVD 29).

PERIOD OF RECORD.--February to July 1978, November 1978 to November 1979, June 1981 to January 1983 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.61 ft below land-surface datum, Mar. 21, 1982; lowest, 12.56 ft below land-surface datum, Oct. 22, 1981.

373818081234301 Local number Wyo-0172

LOCATION.--Lat 37°38'18", long 81°23'43" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers.

PERIOD OF RECORD.--February 1978 to November 1979 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 47.61 ft below land-surface datum, Jan. 24, 1979; lowest, 53.99 ft below land-surface datum, Nov. 29, 1978.

373839081255201 Local number Wyo-0148

LOCATION.--Lat 37°38'39", long 81°25'52" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101, at Twin Falls State Park.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Diameter 6 in., top of first opening 28 ft, depth 80 ft.

DATUM.--Land-surface datum is approximately 2,014.47 ft above NAVD 88 (VERTCON conversion of 2,015 ft above NGVD 29, from topographic map).
Measuring point: Top edge of recorder shelter floor, 3.39 ft above land-surface datum, Sep. 27, 2000, to present. Prior to Sept. 27, 2000, measuring point was top edge of recorder shelter floor, 2.62 ft above land-surface datum.

PERIOD OF RECORD.--December 1976 to January 1977 (periodic water level), February 1977 to September 2008 (daily water level at noon).

GAGE.--Water-level recorder with satellite telemeter. No instrumentation prior to February 1977.

REMARKS.--Aquifer test data available. Water-level record affected by nearby pumping at times.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.19 ft below land-surface datum, Mar. 13, 1980; lowest, 52.40 ft below land-surface datum, Nov. 24, 1987.

373949081280501 Local number Wyo-0178

LOCATION.--Lat 37°39'49", long 81°28'05" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Diameter 6 in., top of first opening 10 ft, depth 58.5 ft.

DATUM.--Land-surface datum is approximately 1,832.27 ft above NAVD 88 (VERTCON conversion of 1,832.80 ft above NGVD 29).

PERIOD OF RECORD.--June 1978 to November 1979 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.16 ft below land-surface datum, Jan. 21, 1979; lowest, 27.64 ft below land-surface datum, Sept. 9, 1979.

374052081270801 Local number Wyo-0188

LOCATION.--Lat 37°40'52", long 81°27'08" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Diameter 6 in., top of first opening 20 ft, depth 72 ft.

DATUM.--Land-surface datum is approximately 1,815.29 ft above NAVD 88 (VERTCON conversion of 1,815.83 ft above NGVD 29).

PERIOD OF RECORD.--June 1978 to November 1979 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.51 ft below land-surface datum, Jan. 21, 1979; lowest, 14.77 ft below land-surface datum, Nov. 15, 1978.

374052081283201 Local number Wyo-0190

LOCATION.--Lat 37°40'52", long 81°28'32" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Diameter 6 in., top of first opening 13.75 ft, depth 87.6 ft.

DATUM.--Land-surface datum is approximately 1,786.48 ft above NAVD 88 (VERTCON conversion of 1,787.02 ft above NGVD 29).

PERIOD OF RECORD.--June 1978 to November 1979 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 22.98 ft below land-surface datum, Feb. 28 to Mar. 8, 1979 (float possibly hung); lowest, 29.51 ft below land-surface datum, Nov. 16-30, 1978 (float hung).

374057081281401 Local number Wyo-0205

LOCATION.--Lat 37°40'57", long 81°28'14" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation.

DATUM.--Land-surface datum is approximately 1,827.36 ft above NAVD 88 (VERTCON conversion of 1,827.90 ft above NGVD 29).

PERIOD OF RECORD.--June 1978 to December 1979 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 151.09 ft below land-surface datum, June 2, 3, 1978; lowest, 154.24 ft below land-surface datum, Nov. 8, 1978.

374112081270601 Local number Wyo-0206

LOCATION.--Lat 37°41'12", long 81°27'06" referenced to North American Datum of 1927, Wyoming County, WV, Hydrologic Unit 05070101.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Pennsylvanian aquifers, Pottsville Formation. Depth 473 ft.

DATUM.--Land-surface datum is approximately 1,830.08 ft above NAVD 88 (VERTCON conversion of 1,830.62 ft above NGVD 29).

PERIOD OF RECORD.--August 1978 to January 1983 (daily water level at noon, unpublished).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.29 ft below land-surface datum, May 2, 1980; lowest, 25.92 ft below land-surface datum, Nov. 20, 1978.
