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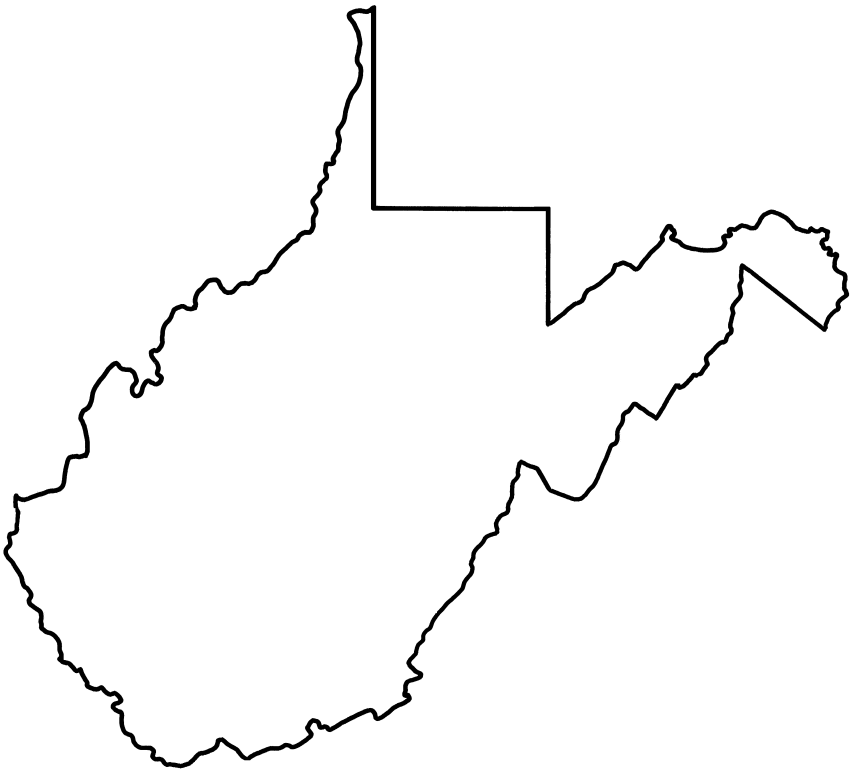
Water Resources Data
West Virginia
Water Year 2004



Water-Data Report WV-04-1

U.S. Department of the Interior
U.S. Geological Survey

Prepared in cooperation with the
State of West Virginia
and with other agencies

Calendar for Water Year 2004

2003

October

S	M	T	W	T	F	S
			1	2	3	4
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2004

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August

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September

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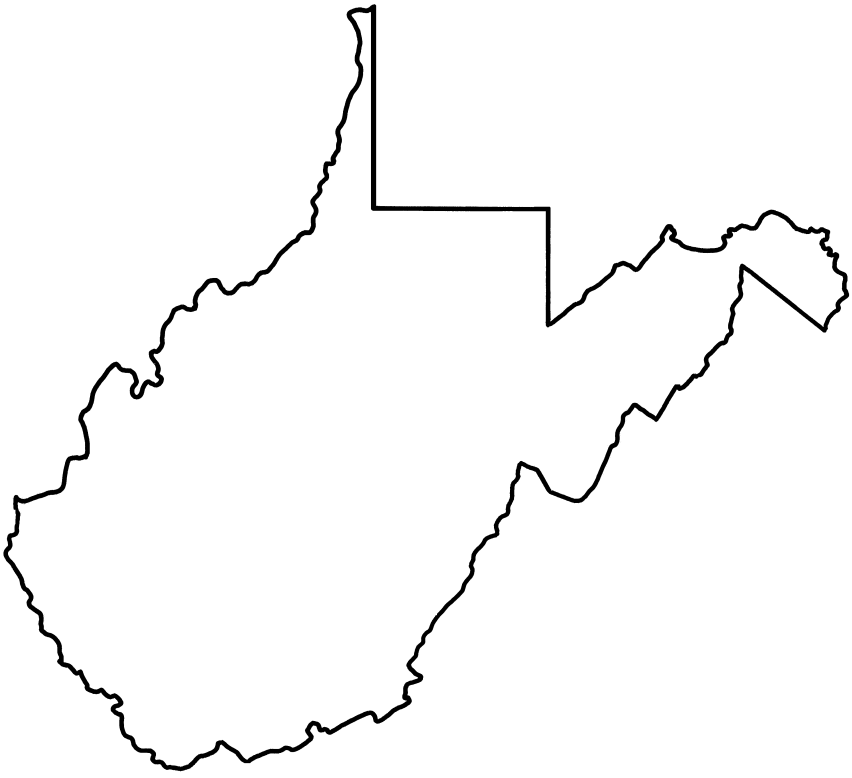
Water Resources Data
West Virginia
Water Year 2004

By S.M. Ward, M.T. Rosier, and G.R. Crosby

Water-Data Report WV-04-1



Prepared in cooperation with the
State of West Virginia and with other agencies

U.S. Department of the Interior
U.S. Geological Survey

U.S. Department of the Interior
Gale A. Norton, Secretary

U.S. Geological Survey
Charles G. Groat, Director

2005

USGS
West Virginia Water Science Center
11 Dunbar Street
Charleston, WV 25301
304-347-5130

PREFACE

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

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. The authors had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines. The following individuals contributed significantly to the collection, processing, and tabulation of the data under the general supervision of Hugh E. Bevans, Director, West Virginia Water Science Center:

J. T. Atkins, Jr.
M. A. Board
C. J. Boughton
R. L. Bragg
F. D. Brogan
D. B. Chambers
R. D. Evaldi
C. W. Faulkenburg
S. T. Flynn
M. D. Kozar
M. V. Mathes, Jr.
K. J. McCoy
T. Messinger
K. F. Miller
K. S. Paybins
L. K. Rogers
J. D. Scott
J. S. White
J. B. Wiley

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West Virginia Water Science Center
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Charleston, WV 25301

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13. ABSTRACT *(Maximum 200 words)*

Water-resources data for the 2004 water year for West Virginia consist of records of stream discharge, reservoir and ground-water levels, and water quality of streams and ground-water wells. This report contains discharge records for 65 streamflow-gaging stations; discharge records provided by adjacent states for 8 streamflow-gaging stations; annual maximum discharge at 17 crest-stage partial-record stations; stage records for 14 detention reservoirs; water-quality records for 2 stations; and water-level records for 10 observation wells. Locations of streamflow, detention reservoir, and water-quality stations are shown on figure 4. Locations of ground-water observation wells are shown on figure 5. Additional water-quality data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous sites. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in West Virginia.

14. SUBJECT TERMS
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ILLUSTRATIONS

TABLES

NOTE.--Data for partial-record stations and miscellaneous sites for both surface-water discharge and quality are published in separate sections of the data report. See references at the end of this list for page numbers for these sections.

[Letters after station name designate type of data collected: (d) discharge, (e) stage, (c) chemical, (b) biological, (m) microbiological, (sK) conductance, (pH) pH units, (t) water temperature, (DO) dissolved oxygen, (s) sediment, (a) annual maximum]

*Records furnished by Maryland Water Science Center, USGS.

**Continuous specific conductance and temperature records are published by the Maryland Water Science Center, USGS.

Letters after station name designate type of data collected: (d) discharge, (e) stage, (c) chemical, (b) biological, (m) microbiological, (sK) conductance, (pH) pH units, (t) water temperature, (DO) dissolved oxygen, (s) sediment, (a) annual maximum]

[Letters after station name designate type of data collected: (d) discharge, (e) stage, (c) chemical, (b) biological, (m) microbiological, (sK) conductance, (pH) pH units, (t) water temperature, (DO) dissolved oxygen, (s) sediment, (a) annual maximum]

***Records furnished by Virginia Water Science Center, USGS.

Letters after station name designate type of data collected: (d) discharge, (e) stage, (c) chemical, (b) biological, (m) microbiological, (sK) conductance, (pH) pH units, (t) water temperature, (DO) dissolved oxygen, (s) sediment, (a) annual maximum]

GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS, LISTED IN DOWNSTREAM ORDER

The following continuous-record surface-water discharge (gaging stations) in West Virginia have been discontinued. Daily streamflow records (discharge) were collected and published for the period of record, expressed in water years, shown for each station.

	Station number	Drainage area (mi^2)	Period of record	Last year revisions published
NORTH ATLANTIC SLOPE BASINS				
POTOMAC RIVER BASIN				
Abram Creek at Oakmont	01595300	42.6	1956-1982	
New Creek near Keyser	01599500	46.5	1930-1931	
			1948-1963	
South Branch Potomac River:				
Friends Run near Franklin	01605600	4.39	1969-1977	
South Mill Creek:				
Spring Run:				
Big Spring at Masonville	01607000	---	1946-1959	
			1968-1969	
Fort Run near Moorefield	01608050	4.85	1969-1977	
South Branch Potomac River near Moorefield	01608070	1,241	1994-2002	
Buffalo Creek near Romney	01608400	4.33	1969-1977	
Potomac River:				
Little Cacapon River near Levels	01609800	108	1967-1977	
Lost River at McCauley near Baker	01610200	155	1972-1980	1997
Cacapon River above Wardensville	01610300	181	1972-1973	
Cacapon River at Yellow Spring	01610500	306	1940-1952	
Back Creek near Jones Springs	01614000	235	1929-1931	
			1939-1975	
Tuscarora Creek above Martinsburg	01617000	11.3	1949-1963	
			1968-1977	
OHIO RIVER BASIN				
MONONGAHELA RIVER BASIN				
Roaring Creek at Norton	03050800	29.2	1965-1969	
Grassy Run at Norton	03050900	2.86	1965-1969	
Middle Fork River at Midvale	03051500	122	1915-1942	1998
Tygart Valley River at Tygart Dam near Grafton	03056000	1,182	1938-1983	
			1987-1991	
Tygart Valley River at Fetterman	03056500	1,304	1907-1939	
Tygart Valley River at Colfax	03057000	1,363	1939-1995	
West Fork River at Walkersville	03057300	28.8	1984-1992	
Skin Creek near Brownsville	03057500	25.7	1946-1960	
West Fork River below Stonewall Jackson Dam near Weston	03058000	101	1991	
(Formerly West Fork River at Brownsville)	"	101	1946-1984	
(Formerly West Fork River at Bendale)	03058006	105	1985-1990	
West Fork River at Butcherville	03058500	181	1915-2000	
West Fork River at Clarksburg	03059000	384	1923-1983	1998
Elk Creek at Quiet Dell	03059500	84.6	1944-1970	
Tenmile Creek:				
Salem Fork:				
Salem Fork at Salem	03060500	8.32	1951-1969	

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS, LISTED IN DOWNSTREAM ORDER--Continued

	Station number	Drainage area (mi^2)	Period of record	Last year revisions published
OHIO RIVER BASIN--Continued				
MONONGAHELA RIVER BASIN--Continued				
Monongahela River:				
Buffalo Creek:				
Owen Davy Fork:				
Laurel Run at Curtisville	03061410	1.11	1978-1980	
Dents Run:				
Hibbs Run near Mannington	03061435	1.42	1978-1979	
Davy Run at Katy	03061495	1.76	1978-1979	
Monongahela River at Lock 15, at Hoult	03062000	2,388	1915-1926	
			1939-1965	
			1967	
Indian Creek:				
Stewart Run at Crown	03062213	2.43	1978-1979	
Indian Creek at Crown	03062215	11.8	1978-1980	
Cobun Creek at Morgantown	03062400	11.0	1965-1994	
			1998-2002	
Dry Fork (head of Cheat River):				
Horsecamp Run at Harman	03063600	6.57	1969-1977	
Blackwater River at Canaan Valley State Park	03065050	9.48	1992	
Blackwater River at Cortland	03065200	18.5	1992-1993	
Tub Run near Douglas	03066630	1.17	1980-1984	
Big Run near Douglas	03066720	1.30	1980-1982	
West Fork Big Run near Douglas	03066730	1.07	1980-1982	
Black Fork (continuation of Dry Fork):				
Shavers Fork:				
Shavers Fork at Bemis	03068000	115	1922-1926	
			1974-1979	
Shavers Fork at Flint	03068500	124	1925-1932	
Shavers Fork above Bowden	03068600	138	1975-1980	
Taylor Run near Alpena	03068604	1.06	1979-1980	
Stalnaker Run near Bowden	03068607	1.55	1979-1980	
Taylor Run at Bowden	03068610	5.06	1973-1982	1997
North Spring at Bowden	03068690	---	1975-1981	
South Spring at Bowden	03068710	---	1975-1980	
Shavers Fork at Parsons	03069000	213	1911-1926	1997
			1941-1993	
Buffalo Creek near Rowlesburg	03069880	12.2	1967-1977	
Cheat River at Rowlesburg	03070000	939	1924-1996	1997
Conner Run near Valley Point	03070310	0.38	1982-1983	
Cheat River near Mt. Nebo	03070350	1,132	1997-1998	
Cheat River near Pisgah	03071000	1,354	1928-1958	1998
Cheat River near Morgantown	03071500	1,380	1902-1906	
			1909-1919	
			1923-1926	
Youghiogheny River:				
Muddy Creek:				
Hayes Run near Cranesville	03075650	0.93	1980-1982	
Muddy Creek near Cranesville	03075670	5.09	1980-1982	
White Oak Springs Run:				
Cupp Run near Cranesville	03075680	1.42	1980-1982	

	Station number	Drainage area (mi^2)	Period of record	Last year revisions published
OHIO RIVER BASIN--Continued				
Ohio River at Martins Ferry	03111534	24,620	1978-1995	
LITTLE GRAVE CREEK BASIN				
Little Grave Creek near Glendale	03113700	4.95	1970-1977	1997
MIDDLE ISLAND CREEK BASIN				
Middle Island Creek at Little	03114500	458	1915-1916, 1929-1995	
Buffalo Run near Little	03114650	4.19	1969-1977	
Ohio River at St. Marys	03115000	26,820	1938-1972	
Ohio River at Parkersburg	03151000	35,650	1940-1968	
LITTLE KANAWHA RIVER BASIN				
Little Kanawha River near Burnsville	03151500	155	1938-1974	
Little Kanawha River below Burnsville Dam	03151520	163	1976-1982, 1987-1993	
Little Kanawha River at Burnsville	03151600	248	1974-1978	
Little Kanawha River at Glenville	03152000	387	1929-1983, 1985-2000	
Leading Creek:				
Buck Run near Leopold	03152200	2.91	1970-1977	
Leading Creek near Glenville	03152500	144	1938-1952	
Steer Creek near Grantsville	03153000	162	1938-1975	
Little Kanawha River at Grantsville	03153500	913	1929-1978	
West Fork Little Kanawha River at Rocksdale	03154000	205	1929-1931, 1938-1975	1997
Spring Creek:				
Tanner Run at Spencer	03154250	2.82	1969-1977	
Reedy Creek near Reedy	03154500	79.4	1952-1978	2001
South Fork Hughes River at MacFarlan	03155200	210	1915-1916, 1938-1952	
North Bend Run near Cairo	03155410	0.14	1985-1987	
Hughes River at Cisco	03155500	453	1929-1931, 1938-1994	1997
Robinson Run near Petroleum	03155520	0.07	1985-1987	
Ohio River at Belleville Dam	03159530	39,360	1975-1985	
Ohio River at Racine Dam	03159870	40,130	1980	
Ohio River at Pomeroy, OH	03160000	40,190	1940-1968	
KANAWHA RIVER BASIN				
New River:				
Rich Creek near Peterstown	03177000	50.6	1942-1951	
Indian Creek at Indian Mills	03177500	189	1942-1951	
Bluestone River:				
Bluestone River near Spanishburg	03178000	199	1945-1952, 1997-1998	

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS, LISTED IN DOWNSTREAM ORDER--Continued

	Station number	Drainage area (mi^2)	Period of record	Last year revisions published
OHIO RIVER BASIN--Continued				
KANAWHA RIVER BASIN--Continued				
New River:				
Bluestone River:				
Camp Creek near Camp Creek	03178500	32.0	1947-1971	
Bluestone River at Lilly	03179500	438	1908-1916	
			1930-1948	
New River at Bluestone Dam	03180000	4,602	1924-1969	
			1976-1983	
East Fork Greenbrier River at Frank	03180300	67.1	1988-1994	
Stoney Creek:				
Indian Draft near Marlinton	03181200	3.06	1968-1977	
Greenbrier River at Marlinton	03181500	408	1909-1916	
Knapp Creek at Marlinton	03182000	108	1946-1958	1997
Spring Creek at Spring Creek	03182650	120	1972-1973	
Anthony Creek near Anthony	03182700	144	1972-1982	
Howard Creek at Caldwell	03182950	84.4	1972-1978	
Second Creek near Second Creek	03183000	80.8	1946-1973	
			1997-1998	
Davis Spring at Fort Spring	03183200	---	1972-1973	
Big Creek near Bellepoint	03184200	8.27	1969-1977	
New River at Hinton	03184500	6,256	1936-2003	
New River at Caperton	03185500	6,826	1929-1958	
New River at Fayette	03186000	6,850	1895-1901	1998
			1903-1904	
			1908-1916	
Gauley River:				
Gauley River at Camden-on-Gauley	03187000	236	1909-1916	
			1930-1975	
Cranberry River:				
North Fork Cranberry River near Hillsboro	03187300	9.78	1969-1982	
Cherry River at Richwood	03188500	85.0	1908-1916	
Cherry River at Fenwick	03189000	150	1930-1969	1997
			1980-1982	
Gauley River near Summersville	03189500	680	1909-1916	
			1929-1965	
Gauley River below Summersville Dam	03189600	806	1966-1982	
			1987-2003	
Collison Creek near Nallen	03189650	2.78	1967-1977	
Meadow River at McRoss	03189890	163	1980-1982	
Meadow River at Nallen	03190000	287	1909-1916	
			1929-1971	
Twentymile Creek at Vaughan	03192200	46.2	2000-2001	
Gauley River at Belva	03192500	1,402	1908-1916	1998
Slaughter Creek:				
Right Fork Little Creek near Chelyan	03193776	0.91	1983	
Little Creek near Chelyan	03193778	1.44	1982-1984	

	Station number	Drainage area (mi^2)	Period of record	Last year revisions published
OHIO RIVER BASIN--Continued				
KANAWHA RIVER BASIN--Continued				
Elk River:				
Gilmer Run near Marlinton	03193830	1.80	1968-1977	
Elk River at Webster Springs	03194000	168	1908-1916	
Elk River below Back Fork at Webster Springs	03194500	242	1930-1934	
Elk River at Centralia	03195000	281	1935-1963	1997
Right Fork Holly River at Guardian	03195100	51.9	1974-1978	1998
			1986-1987	
Left Fork Holly River near Replete	03195250	46.5	1974-1978	1998
			1986-1987	
Elk River at Sutton	03195500	542	1939-1992	
Granny Creek at Sutton	03195600	6.98	1967-1977	
Elk River at Gassaway	03196000	578	1908-1916	
Birch River at Herold	03196500	124	1974-1975	
			1979-1984	
Elk River near Frametown	03196600	751	1959-1981	
Buffalo Creek at Clay	03196750	114	1974-1975	
Elk River at Clay	03196800	992	1959-1978	
Big Sandy Creek:				
Left Hand Creek near Clendenin	03197440	27.8	1974-1975	
Elk River at Clendenin	03197500	1,290	1908-1916	
Elk River at Blue Creek	03197680	1,336	1985-1986	
Little Sandy Creek near Elkview	03197790	43.6	1985-1987	
Davis Creek:				
Trace Fork at Ruth	03198020	2.73	1980-1984	
Track Fork downstream Dryden Hollow at Ruth	03198022	4.72	1980-1984	
Coal River:				
Big Coal River:				
Drawdy Creek near Peytona	03198450	7.75	1969-1977	
Big Coal River near Alum Creek	03198550	445	1975-1982	
Spruce Fork at Sharples	03198690	44.1	2000-2001	
Little Coal River at Danville	03199000	269	1930-1984	1997
Rock Creek near Danville	03199300	12.2	1979-1984	
Little Coal River at Julian	03199400	318	1975-1984	*1983
Coal River at Alum Creek	03199700	837	1975-1979	
Coal River at Fuqua	03200000	849	1912-1916	
Pocatalico River:				
Pocatalico River at Sissonville	03201000	238	1908-1916	1997
			1930-1931	
			1937-1978	
			1979-1980	
			1997-1998	
Hurricane Creek:				
Poplar Fork at Teays	03201410	8.71	1967-1978	1997
Ohio River at Point Pleasant	03201500	52,740	1940-1977	

* Discharge revised for water years 1975-82 in 1983 annual report.

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS, LISTED IN DOWNSTREAM ORDER--Continued

	Station number	Drainage area (mi^2)	Period of record	Last year revisions published
OHIO RIVER BASIN--Continued				
GUYANDOTTE RIVER BASIN				
Guyandotte River:				
Allen Creek at Allen Junction	03202240	8.43	1978-1979	
Slab Fork:				
Marsh Fork at Maben	03202245	4.85	1978-1980	
Still Run at Itmann	03202255	7.12	1978-1979	
Cabin Creek:				
Black Fork above Black Fork Falls near Mullens	03202260	2.68	1981-1983	
Black Fork at Mouth near Mullens	03202262	2.76	1981-1983	
Rockcastle Creek:				
Bearhole Fork at Pineville	03202310	6.27	1978-1979	
Indian Creek:				
Brier Creek at Fanrock	03202480	7.34	1969-1977	1997
Indian Creek at Fanrock	03202490	41.3	1974-1981	1997
Clear Fork:				
Laurel Fork:				
Milam Fork at McGraws	03202695	6.64	1978-1979	
Guyandotte River near Justice	03202900	512	1963-1968	
Guyandotte River below R.D. Bailey Dam	03202915	535	1979-1982	
			1987-1991	
Guyandotte River at Man	03203000	758	1929-1962	1997
Island Creek:				
Copperas Mine Fork:				
Whitman Creek at Whitman	03203670	10.9	1969-1977	
Guyandotte River at Branchland	03204000	1,224	1915-1917	
			1929-1995	
Unnamed Tributary to Ballard Fork near Mud	03204205	0.19	2000-2003	
Spring Branch near Mud	03204210	0.53	2000-2003	
Ballard Fork near Mud	03204215	2.12	2000-2003	
Mud River at Mud	03204220	17.0	2000-2001	
Mud River near Milton	03204500	256	1938-1980	1997
Ohio River at Huntington	03206000	55,850	1935-1986	
Fourpole Creek at Huntington	03206500	21.5	1940-1948	
TWELVEPOLE CREEK BASIN				
East Fork Twelvepole Creek below East Lynn Dam	03206790	138	1968-1982	
East Fork Twelvepole Creek near East Lynn	03206800	139	1962-1967	
West Fork Twelvepole Creek above Wayne at Echo	03206980	108	1979-1981	
Twelvepole Creek at Wayne	03207000	291	1915-1917	
			1927-1931	
			1947-1954	
			1956-1966	
Twelvepole Creek below Wayne	03207020	300	1915-1917	1998
			1927-1931	
			1947-1954	
			1956-1982	
Beech Fork below Beech Fork Dam	03207057	79.2	1976-1982	

	Station number	Drainage area (mi^2)	Period of record	Last year revisions published
OHIO RIVER BASIN--Continued				
BIG SANDY RIVER BASIN				
Tug Fork:				
Indian Creek:				
Puncheoncamp Branch at Leckie	03212558	1.36	1980-1982	
South Fork:				
Freeman Branch near Skygusty	03212567	0.30	1980-1982	
Sandlick Creek:				
Left Fork Sandlick Creek at Elbert	03212580	1.78	1980-1982	
Right Fork Sandlick Creek near Gary	03212585	1.21	1980-1982	
Tug Fork at Welch	03212600	85.9	1979-1981	
Elkhorn Creek at Maitland	03212700	69.9	1979-1980	
Elkhorn Creek Tributary at Welch	03212703	0.63	1980-1982	
Dry Fork at Avondale	03212985	225	1979-1981	
Tug Fork at Litwar	03213000	504	1930-1984	
Panther Creek:				
Crane Creek near Panther	03213495	0.54	1981-1982	
Tug Fork at Vulcan	03213620	778	1985-1993	
Pigeon Creek near Lenore	03213800	93.9	1979-1981	
Tug Fork near Kermit	03214000	1,188	1934-1985	
Rockcastle Creek at Inez, KY	03214700	63.1	1980-1981	
Tug Fork at Glenhayes	03214900	1,507	1976-1982, 1991-1992	

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER-QUALITY STATIONS, LISTED IN DOWNSTREAM ORDER

The following continuous-record surface-water-quality stations in West Virginia have been discontinued. Daily records of specific conductance (sK), pH, water temperature (t), dissolved oxygen (DO), sediment (s), and turbidity (U) were collected for the period (in water years) shown for each station.

	Station number	Drainage area (mi^2)	Type of record	Period of record
NORTH ATLANTIC SLOPE BASINS				
POTOMAC RIVER BASIN				
North Fork South Branch Potomac River at Cabins	01606000	335	t	1961
South Branch Potomac River near Petersburg	01606500	676	t	1947-1953
				1955-1973
			sK	1968-1969
South Branch Potomac River near Springfield	01608500	1,486	sK, t	1968-1969
Lost River at McCauley near Baker	01610200	155	t	1975-1976
Cacapon River near Great Cacapon	01611500	675	t	1949-1953
				1961
Cacapon River at Great Cacapon	01611600	---	t	1959-1964
Opequon Creek near Martinsburg	01616500	273	sK, t	1969-1970
Shenandoah River at Millville	01636500	3,040	sK, t	1980-1983
OHIO RIVER BASIN				
MONONGAHELA RIVER BASIN				
Tygart Valley River at Elkins	03050400	268	t	1947-1992
Roaring Creek at Norton	03050800	29.2	t, s	1965-1967
Grassy Run at Norton	03050900	2.86	t, s	1965-1967
West Fork River below Stonewall Jackson Dam near Weston	03058000	101	sK, pH	1999-2000
			t, DO	1999-2000
Tenmile Creek:				
Salem Fork:				
Salem F Subwatershed #11A Varner Hollow near Salem	03060000	---	t, s	1961
Salem Fork at Salem	03060500	8.32	s	1956-1958
				1962
Monongahela River:				
West Fork River at Enterprise	03061000	759	sK, pH	1999-2000
			t, DO	1999-2000
Buffalo Creek at Barrackville	03061500	116	sK, t, s	1979-1981
Black Fork (continuation of Dry Fork):				
Blackwater River at Canaan Valley State Park	03065050	9.48	sK, pH	1991-1993
				2001
			t, DO	1991-1993
				2001
Blackwater River at Cortland	03065200	18.5	sK, pH	1991-1993
				2001
			t, DO	1991-1993
				2001
Blackwater River near Davis	03065400	54.7	sK, pH	1991-1993
				1995-1997
				2001
			t, DO	1991-1993
				1995-1997
				2001
Shavers Fork above Bowden	03068600	138	sK, s, U	1975-1980
			pH	1978-1979
			t	1976-1979

	Station number	Drainage area (mi^2)	Type of record	Period of record
OHIO RIVER BASIN--Continued				
MONONGAHELA RIVER BASIN--Continued				
Taylor Run at Bowden	03068610	5.06	sK	1973-1980
			pH	1973-1974
				1978-1979
			t	1973-1974
				1976-1979
			s, U	1975-1980
North Spring at Bowden	03068690	---	t	1977-1981
			U	1975-1980
South Spring at Bowden	03068710	---	t	1977-1980
			U	1975-1980
Shavers Fork below Bowden	03068800	151	sK	1973-1981
			pH	1973-1974
			t	1973-1979
				1981
			s, U	1975-1981
Shavers Fork at Parsons	03069000	213	t	1956-1964
				1974-1975
Cheat River at Lake Lynn, PA	03071600	1,411	t	1949-1957
				1959-1992
LITTLE KANAWHA RIVER BASIN				
Little Kanawha River near Wildcat	03151400	112	sK, t, s	1979-1981
Little Kanawha River near Burnsville	03151500	155	t	1971-1974
Little Kanawha River at Glenville	03152000	387	t	1956-1963
Leading Creek:				
Leading Creek near Glenville	03152500	144	sK, t	1971-1974
West Fork Little Kanawha River at Rocksdale	03154000	205	t	1970-1974
Little Kanawha River at Parkersburg	03155600	---	t	1960-1961
KANAWHA RIVER BASIN				
Bluestone River near Spanishburg	03178000	199	t	1997-1998
New River at Bluestone Dam	03180000	4,602	t	1956-1967
				1971-1983
Knapp Creek at Marlinton	03182000	108	t	1956-1983
				1985-1987
Second Creek near Second Creek	03183000	80.8	t	1997-1998
Piney Creek at Raleigh	03185000	52.7	sK	1979-1981
			s	1981
New River at Thurmond	03185400	6,687	sK,pH,t,DO	1991-1993
			t	1997-1998
Williams River at Dyer	03186500	128	t	1997-1998
Cranberry River:				
Cranberry River near Richwood	03187500	80.4	sK	1979-1980
			pH	1989
			t	1982
				1997-1998
			s	1980-1981

	Station number	Drainage area (mi^2)	Type of record	Period of record
OHIO RIVER BASIN--Continued				
KANAWHA RIVER BASIN--Continued				
Gauley River:				
Gauley River near Craigsville	03189100	529	sK	1981-1982
			t	1975-1977
				1981-1982
Gauley River below Summersville Dam	03189600	806	sK	1981-1982
			t	1975-1977
				1981-1982
Peters Creek near Lockwood	03191500	40.2	sK,pH,t	1997-1998
Kanawha River at Kanawha Falls	03193000	8,371	t	1958-1966
				1968-1983
				1997-1998
Kanawha River at Glasgow	03193742	8,631	t	1977-1992
Kanawha River at Cabin Creek	03193770	8,661	t	1956
				1958-1977
Elk River below Webster Springs	03194700	266	t	1974-1983
			U	1974-1975
Right Fork Holly River at Guardian	03195100	51.9	t	1974
			U	1974-1975
Left Fork Holly River near Replete	03195250	46.5	t	1974
			U	1974-1975
Elk River at Sutton	03195500	542	sK	1985-1987
			t	1960-1983
				1985-1987
			s	1985-1987
			U	1974-1975
				1985-1987
Elk River near Frametown	03196600	751	t	1961-1967
				1972-1975
Elk River at Clay	03196800	992	t	1961-1970
Elk River at Queen Shoals	03197000	1,145	sK, s, U	1985-1986
			t	1961-1975
				1985-1986
Elk River at Blue Creek	03197680	1,336	sK,t,s,U	1985-1986
Kanawha River at Charleston	03198000	10,448	t	1953-1970
				1972-1985
Davis Creek:				
Trace Fork at Ruth	03198020	2.73	sK	1980-1983
			t, s	1980-1984
Trace Fork downstream Dryden Hollow at Ruth	03198022	4.72	sK	1980-1983
			t, s	1980-1984
Coal River:				
Clear Fork at Whitesville	03198350	62.8	sK,pH,t	1997-1998
Big Coal River near Alum Creek	03198550	445	sK, s	1975-1982
			t	1975-1980
Little Coal River at Danville	03199000	269	sK	1973-1983
			t, s	1973-1984
Rock Creek near Danville	03199300	12.2	sK, t	1979-1982
			s	1979-1981

	Station number	Drainage area (mi^2)	Type of record	Period of record
OHIO RIVER BASIN--Continued				
KANAWHA RIVER BASIN--Continued				
Rock Creek at Rock Creek	03199320	13.3	sK, t	1979-1982
			s	1979-1981
Little Coal River at Julian	03199400	318	sK, t	1975-1982
			*s	1975-1981
Coal River at Alum Creek	03199700	837	sK, t	1975-1981
			s	1975-1980
Coal River at Tornado	03200500	862	sK	1973-1983
			t	1974-1984
			s	1973-1984
			U	1981-1991
Kanawha River at Poca	03200650	11,435	t	1976-1992
Kanawha River at Winfield	03201300	11,809	sK	1965-1970
				1974-1980
			pH, DO	1976-1980
			t	1957-1967
				1969-1971
				1974-1980
				1997-1998
GUYANDOTTE RIVER BASIN				
Guyandotte River:				
Allen Creek at Allen Junction	03202240	8.43	sK,t,s,U	1978-1980
			pH	1978-1979
Slab Fork:				
Marsh Fork at Maben	03202245	4.85	sK,t,s,U	1978-1980
			pH	1978-1979
Still Run at Itmann	03202255	7.12	sK,t,s,U	1978-1980
			pH	1978-1979
Rockcastle Creek:				
Bearhole Fork at Pineville	03202310	6.27	sK,t,s,U	1978-1980
			pH	1978-1979
Guyandotte River near Baileysville	03202400	306	sK	1971-1979
			t	1971-1982
			s	1973-1979
Indian Creek at Fanrock	03202490	41.3	sK, s	1974-1978
			t	1975-1981
Clear Fork:				
Laurel Fork:				
Milam Fork at McGraws	03202695	6.64	sK, U	1978-1980
			pH, t	1978-1979
			s	1979-1980
Clear Fork at Clear Fork	03202750	126	sK, s	1974-1978
			t	1975-1981
Guyandotte River at Logan	03203600	833	sK, t	1976
			s	1975-1976
Island Creek:				
Island Creek at Logan	03203700	---	sK,pH,t,U	1976-1977
			s	1977

*Suspended-sediment discharge revised for water years 1975-81 in 1983 annual report.

	Station number	Drainage area (mi^2)	Type of record	Period of record
OHIO RIVER BASIN--Continued				
GUYANDOTTE RIVER BASIN--Continued				
Guyandotte River at Branchland	03204000	1,224	sK,t,s,U	1976-1977
Guyandotte River at Barboursville	03204200	1,309	sK, t, U	1976-1977
Mud River near Milton	03204500	256	sK, t	1976-1977
			s	1975-1977
Mud River at Barboursville	03205180	---	sK, t, U	1976-1977
Guyandotte River at Huntington	03205200	---	t	1960-1961
TWELVEPOLE CREEK BASIN				
East Fork Twelvepole Creek near Dunlow	03206600	38.5	sK, t	1974-1976
West Fork Twelvepole Creek above Wayne at Echo	03206980	108	sK	1979-1980
			t	1980
			s	1980-1981
BIG SANDY RIVER BASIN				
Tug Fork:				
Indian Creek:				
Puncheoncamp Branch at Leckie	03212558	1.36	s	1981
South Fork:				
Freeman Branch near Skygusty	03212567	0.30	s	1981
Sandlick Creek:				
Left Fork Sandlick Creek at Elbert	03212580	1.78	s	1981
Right Fork Sandlick Creek near Gary	03212585	1.21	s	1981
Tug Fork at Welch	03212600	85.9	sK	1979-1980
			t	1974-1976
			s	1979-1981
Elkhorn Creek at Maitland	03212700	69.9	sK	1979
			s	1979-1980
Elkhorn Creek Tributary at Welch	03212703	0.63	s	1981
Dry Fork at Avondale	03212985	225	sK, s	1979-1981
			t	1979
Tug Fork at Litwar	03213000	504	sK	1980
Panther Creek:				
Crane Creek near Panther	03213495	0.54	s	1981
Panther Creek near Panther	03213500	31.0	sK	1975
				1980-1981
			t	1973-1975
Pigeon Creek near Lenore	03213800	93.9	sK, t, s	1979-1981
Tug Fork near Kermit	03214000	1,188	t	1956
Tug Fork at Kermit	03214500	1,280	t	1947-1981
Rockcastle Creek at Inez, Ky	03214700	63.1	s	1980-1981
Tug Fork at Glenhayes	03214900	1,507	sK, s	1977-1980
			t	1979-1980

INTRODUCTION

The West Virginina 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. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series titled "Water Resources Data - West Virginia."

This report includes records on both surface and ground water in the State. Specifically, it contains: Discharge records for 65 streamflow-gaging stations; discharge records provided by adjacent states for 8 streamflow-gaging stations; annual maximum discharge at 17 crest-stage partial-record stations; stage records for 14 detention reservoirs; water-quality records for 2 stations; and water-level records for 10 observation wells. Locations of streamflow, detention reservoir, and water-quality stations are shown on figure 4. Locations of ground-water observation wells are shown on figure 5. Additional water data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous sites. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in 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 the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to introduction of this 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 Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from the U. S. Geological Survey, Books and Open-File Reports, Federal Center, Box 25425, Denver, Colorado 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report WV-04-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161. Additional information, including current prices, for ordering specific reports may be obtained from the Water Science Center Director at the address given on the back of the title page or by telephone (304) 347-5130.

COOPERATION

The U.S. Geological Survey and agencies of the State of West Virginia have had joint-funding agreements for the collection of water-resource records since 1930. Organizations that assisted in collection, compilation, and publication of the data in this report through joint-funding agreement with the Survey are:

West Virginia Department of Military Affairs and Public Safety, James W. Spears, Secretary through
West Virginia Office of Emergency Services, Stephen Kappa, Director.

West Virginia Department of Environmental Protection, Stephanie Timmermeyer, Secretary.
Division of Water and Waste Management, Lisa McClung, Director.
Division of Mining and Reclamation, Franklin J. Parker, Director.

West Virginia Department of Transportation, Danny Ellis, Secretary.

West Virginia Conservation Agency, Truman Wolfe, Director.

West Virginia Division of Natural Resources, Frank Jezioro, Director.

City of Hurricane, West Virginia, Raymond Peak, Mayor.

Assistance with funds or services was given by the U.S. Army Corps of Engineers, National Park Service, Office of Surface Mining and Reclamation, and U.S. Environmental Protection Agency.

Assistance was also furnished by the National Weather Service of the U.S. Department of Commerce.

Organizations that provided data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Monthly and annual mean discharges for the 2004 water year as compared to the median of mean monthly and yearly discharges for water years 1931-2000 for four streamflow stations in West Virginia are shown in figures 1 and 2. Monthly average streamflow at these streamflow-gaging stations was at or greater than the long-term average for each month of the year. Mean, maximum, and minimum stream statistics for the 2004 water year for selected gaging stations in West Virginia are shown in table 1. Streamflow throughout the State, as represented by the selected gaging stations shown in table 1, ranged between 107 and 201 percent of average for the year. Base flow of streams throughout the State was well maintained, and the minimum 7-day mean streamflows were significantly greater than the expected low at a 10-year recurrence interval.

Monthly average streamflow was above normal in October, even though precipitation was near normal, because of continued runoff from Hurricane Isabel September 19-20, 2003. Rainfall of 2 to 4 inches fell November 11-13 causing significant stream rises. Beginning November 18, another storm system brought widespread rains on already-saturated ground of about 3 inches with higher localized amounts of 4 to 5 inches. Rises in streamflow to the 5-year recurrence interval were common throughout the State. Flood peaks to the 25-year recurrence interval occurred on the South Branch Potomac River at Franklin in the Potomac River Basin and on Buffalo Creek at Barrackville in the Monongahela River Basin. Flood peaks above the 25-year recurrence interval occurred on the Guyandotte River near Baileysville and at several stream gages in the Kanawha River Basin. The Kanawha River at Charleston exceeded flood stage for the first time since 1955 reaching 37.65 feet on November 20.

During the evening of February 5 and the following morning, snow and rain totaling 1 to 2.5 inches fell across portions of the State. Peak flows resulting from this storm approached the 10-year recurrence interval in the Tygart Valley River system of the Monongahela River Basin.

The only other period of peak flows at gages exceeding the 5-year recurrence interval occurred when rain totaling 5 to 9 inches fell during September in the Wheeling Creek Basin from Hurricane Ivan. The peak flow at Wheeling Creek at Elm Grove approached the 50-year recurrence interval on September 17. Ivan tracked along the Ohio River, and localized runoff caused a rise of over 21 feet in 24 hours between September 17 and 18 on the Ohio River at Marietta, OH. The river peaked at a stage of 42.37 feet, which was 7 feet above flood stage and the highest level since 1964.

Ground-Water Levels

Ground-water levels were normal to above normal statewide for the entire year. In Berkeley, Grant, and Wayne Counties, water levels remained above normal the entire year. The year started with above normal water levels in October of 2003 everywhere within the State except in Mingo County where levels were near normal. Ground-water levels remained above normal through December of 2003. In January 2004, water levels began to fall towards more normal levels except in Berkeley, Grant, and Wayne counties where they remained above normal. In June, mostly as a result of summer thunderstorms, water levels began to rise back to above normal levels. In the period from July through September 2004, water levels remained either normal or above normal. There did not appear to be any specific geographic distribution of areas with either near normal or above normal water levels, and none of the major hurricanes that impacted the mid-Atlantic area appeared to have significant impacts on ground-water levels within the State.

Quality of Water

Surface water: Waites Run near Wardensville was sampled as part of the National Water Quality Assessment (NAWQA) of the Potomac River and Delmarva Peninsula Basins. This site, located in a relatively undisturbed forested basin, is used as a comparative reference condition for the Potomac/ Delmarva study unit. More information on the NAWQA program is available on page 12.

Ground water: Each year, 30 wells are sampled in cooperation with the West Virginia Department of Environmental Protection, Division of Water and Waste Management, in an effort to ascertain the characteristics and quality of water in the State's major aquifers. In 2003, at the completion of a 5-year cycle, ground-water samples had been obtained from all major surface-water drainage basins in West Virginia. During 2004, the start of another 5-year cycle, ambient ground water was sampled in the following basins: Gauley River, Lower Guyandotte River, Northern Middle Ohio River, Southern Middle Ohio River, direct tributaries to the Potomac River, and Tug Fork.

Surface and ground water: Seven wells, four drive points, two stream sites, and one spring were sampled for major ions, nutrients, total arsenic, and various arsenic species in the Muddy Creek drainage of Virginia to determine how arsenic cycles through an agricultural watershed. The data were collected to examine arsenic transport through the agricultural watershed, sorption and desorption of arsenic species, biotransformation of arsenic in poultry litter, and effects of poultry litter application to soil.

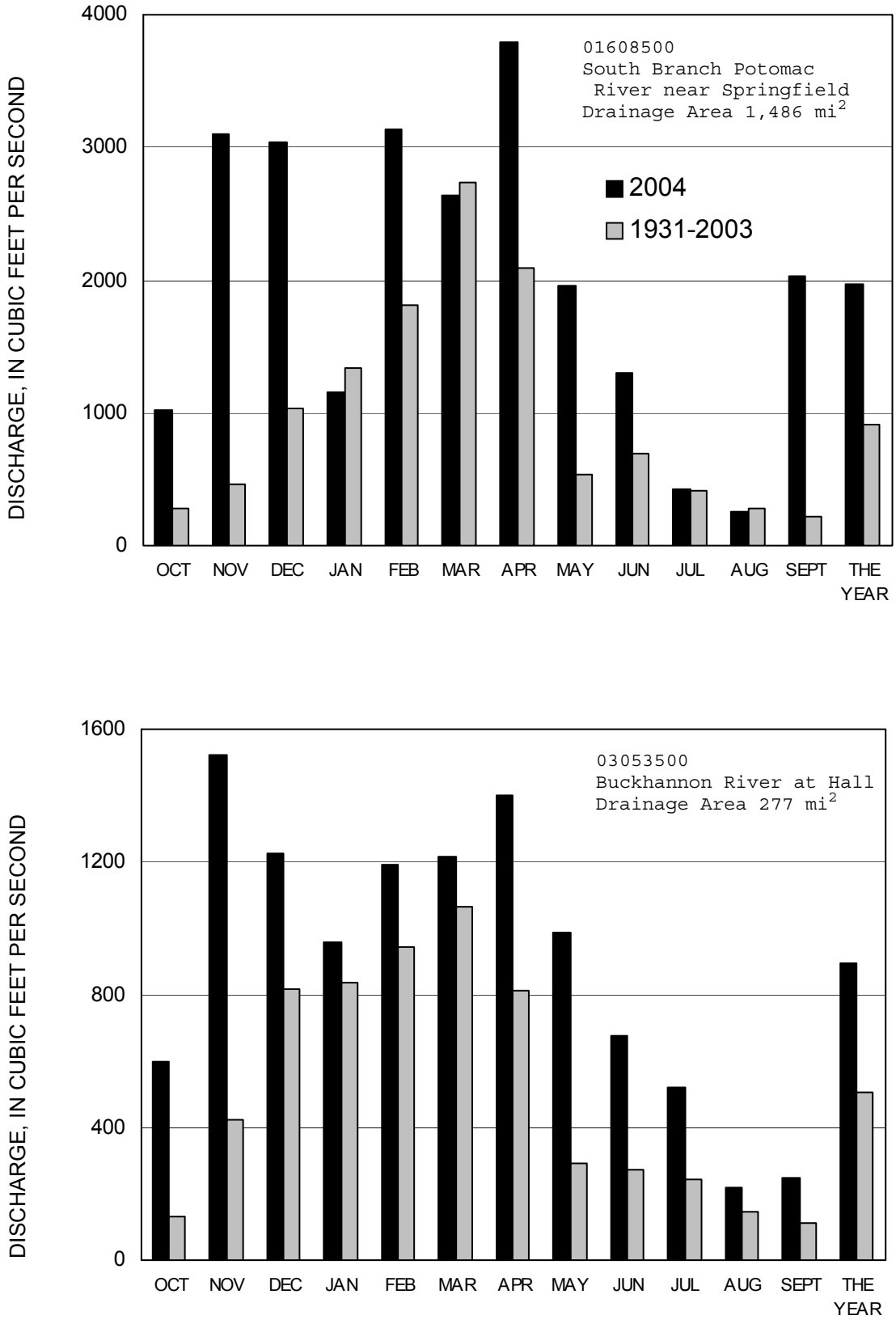

Figure 1. --Discharge at the South Branch Potomac River and the Buckhannon River index gaging stations during the 2004 water year compared to median discharge for the period 1931-2003.

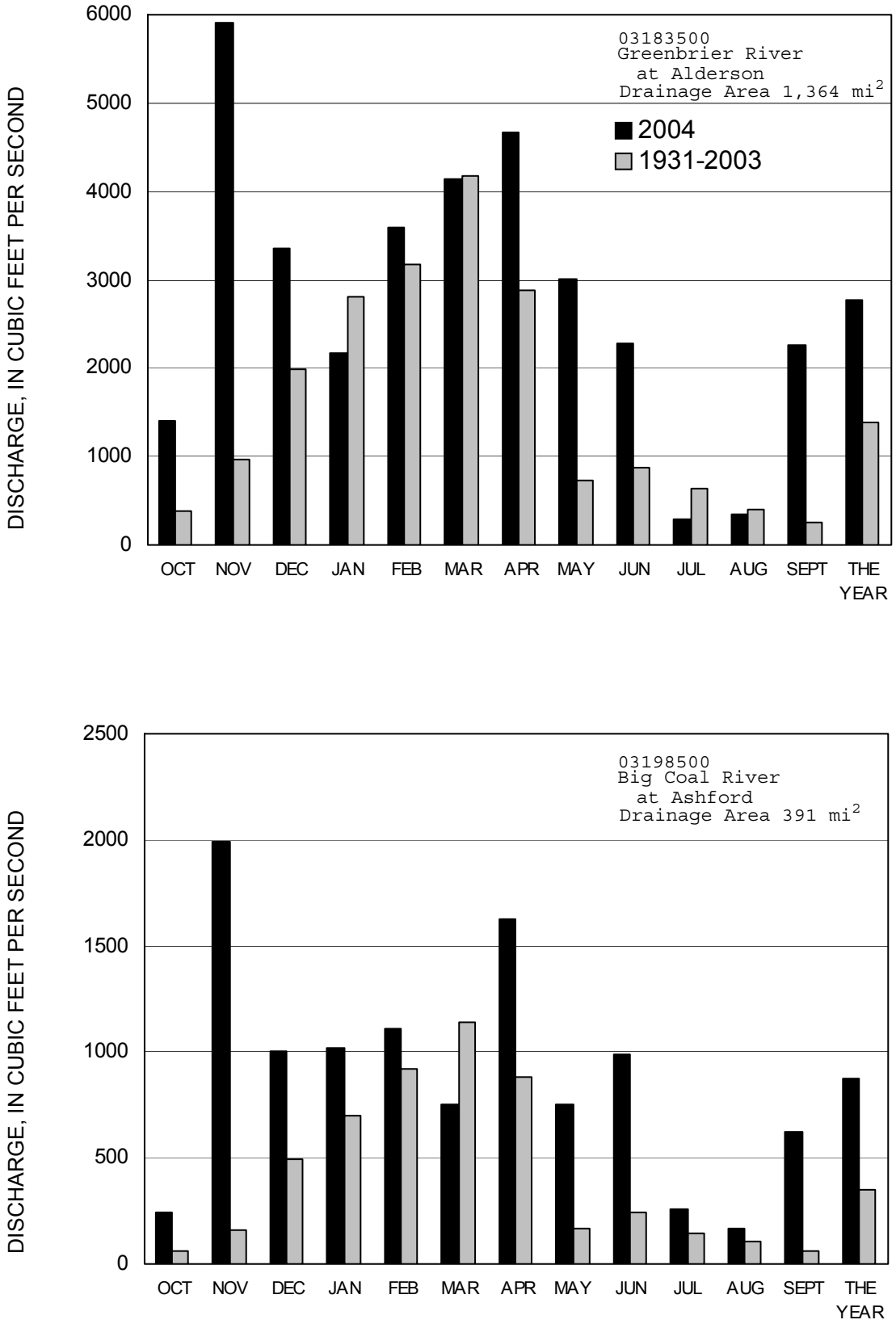

Figure 2. --Discharge at the Greenbrier River and the Big Coal River index gaging stations during the 2004 water year compared to median discharge for the period 1931-2003.

Table 1.--Mean, maximum, and minimum stream statistics for water year 2004 at selected stations in West Virginia.

[$7Q_{10}$: 7-day minimum mean streamflow for 10-year recurrence interval; R: regulated period only; ---: unknown or not applicable.]

Station number	Station name	Drainage Area (mi^2)	Years of Discharge Record	--------MEAN-------- Daily Streamflow (ft^3/s)	Percent of Average	----------MAXIMUM---------- Peak Stage (ft)	Peak Discharge (ft^3/s)	Date	Recurrence Interval (Years) (a)	--------MINIMUM-------- 7-day Mean Streamflow (ft^3/s)	$7Q_{10}$ Streamflow (ft^3/s) (b)
	POTOMAC RIVER BASIN										
01595200	Stony River nr Mount Storm	48.7	43	126	127	6.88	1,850	Sep 8	---	8.4	---
01604500	Patterson Creek nr Headsville	211	67	234	134	9.03	2,890	Feb 6	<2	13	2.9
01605500	South Branch Potomac R at Franklin	179	57	264	149	12.26	16,800	Nov 19	25	43	18.3
01606000	NF South Branch Potomac River at Cabins	335	30	615	151	11.06	12,600	Nov 19	2-5	18	7.3
01606500	South Branch Potomac River nr Petersburg	676	76	1,108	148	14.86	29,000	Nov 19	5-10	106	52
01607500	SF South Branch Potomac R at Brandywine	103	61	155	148	6.68	3,170	Sep 28	2	7.0	2.3
01608000	SF South Branch Potomac R nr Moorefield	277	73	326	139	8.35	7,570	Sep 28	2	21	8.5
01608070	South Branch Potomac River near Moorefield	1,241	---	---	---	18.41	---	Nov 20	---	---	---
01608500	South Branch Potomac River nr Springfield	1,486	80	1,976	146	18.00	29,000	Nov 20	2-5	155	---
01611500	Cacapon River nr Great Cacapon	675	81	1,010	170	12.54	14,000	Dec 11	2	84	37.7
01616500	Opequon Creek nr Martinsburg	273	57	398	161	13.21	6,980	Sep 29	2-5	100	34.1
01636500	Shenandoah River at Millville	3,022	89	3,921	141	14.15	44,500	Sep 30	2-5	700	---
	MONONGAHELA RIVER BASIN										
03050000	Tygart Valley River near Dailey	185	16	479	134	12.60	9,670	Feb 6	5	7.6	1.6
03050500	Tygart Valley River nr Elkins	271	60	669	127	14.79	8,860	Feb 7	2-5	26	13.9
03051000	Tygart Valley River at Belington	406	97	1,094	133	16.92	14,700	Feb 7	5-10	48	4.8
03052000	Middle Fork River at Audra	148	53	494	139	10.41	7,160	Feb 6	2-5	32	.9
03052500	Sand Run nr Buckhannon	14.3	58	42	151	6.72	1,410	Nov 19	5-10	.97	.8
03052450	Buckhannon River at Buckhannon	217	---	---	---	25.06	---	Dec 7	---	---	---
03053500	Buckhannon River at Hall	277	89	895	148	12.97	8,950	Feb 7	2-5	65	3.0
03054500	Tygart Valley River at Philippi	914	64	2,757	144	21.40	33,000	Feb 7	5-10	155	---
03056250	Three Fork Creek nr Grafton	96.8	20	251	138	15.72	7,540	Nov 19	5-10	18	---
03057000	Tygart Valley River at Colfax	1,363	---	---	---	15.09	---	Nov 19	---	---	---
03057300	West Fork River at Walkersville	28.8	---	---	---	14.97	---	Nov 19	---	---	---
03058500	West Fork River at Butcherville	181	---	---	---	10.02	---	Nov 19	---	---	---
03058975	West Fork River nr Mount Clare	368	17	887	R150	18.25	10,900	Nov 20	---	94	---
03061000	West Fork River at Enterprise	759	71	1,859	R155	23.81	28,100	Nov 19	5-10	170	15.2
03061500	Buffalo Creek at Barrackville	116	81	245	145	14.08	9,460	Nov 19	25	18	.8
03062500	Deckers Creek at Morgantown	63.2	25	148	141	5.77	2,290	Nov 19	2-5	8.8	1.0
03065000	Dry Fork at Hendricks	349	62	1,046	133	7.40	11,000	Feb 6	<2	69	11.5
03065400	Blackwater River nr Davis	54.7	13	175	107	6.22	1,430	Feb 7	---	10	---

Table 1.--Mean, maximum, and minimum stream statistics for water year 2004 at selected stations in West Virginia--Continued.

[$7Q_{10}$: 7-day minimum mean streamflow for 10-year recurrence interval; R: regulated period only; ---: unknown or not applicable.]

Station number	Station name	Drainage Area (mi^2)	Years of Discharge Record	MEAN: Daily Streamflow (ft^3/s)	MEAN: Percent of Average	MAXIMUM: Peak Stage (ft)	MAXIMUM: Peak Discharge (ft^3/s)	MAXIMUM:	MAXIMUM: Recurrence Interval (Years) (a)	MINIMUM: 7-day Mean Streamflow (ft^3/s)	MINIMUM: $7Q_{10}$ Streamflow (ft^3/s) (b)
	MONONGAHELA RIVER BASIN--										
03066000	Blackwater River at Davis	85.9	83	273	134	7.99	2,360	Feb 6	2	17	5.0
03067510	Shavers Fork nr Cheat Bridge	60.2	3	222	108	15.57	7,600	Nov 19	---	14	---
03068800	Shavers Fork below Bowden	151	15	552	123	12.37	22,900	Nov 19	---	52	25.4
03069500	Cheat River nr Parsons	722	91	2,379	137	12.87	31,100	Nov 19	2-5	177	---
03069870	Cheat River near Rowlesburg	912	7	3,302	126	12.83	29,700	Nov 20	---	276	---
03070500	Big Sandy Creek at Rockville	200	91	614	146	12.66	8,930	Nov 19	2-5	43	24.2
	WHEELING CREEK BASIN										
03110830	Kings Cr at Weirton	49.0	3	100	148	17.21	8,700	Sep 17	---	12	---
03112000	Wheeling Creek at Elm Grove	281	64	653	192	13.83	22,300	Sep 17	25-50	48	.6
	LITTLE KANAWHA RIVER BASIN										
03151400	Little Kanawha River nr Wildcat	112	29	317	138	13.14	7,790	May 5	5	12	2.7
03151600	Little Kanawha River at Burnsville	248	---	---	---	15.74	---	Nov 19	---	---	---
03152000	Little Kanawha River at Glenville	387	---	---	---	30.37	---	Nov 19	---	---	---
03153500	Little Kanawha River at Grantsville	913	---	---	---	39.42	---	Nov 20	---	---	---
03154000	West Fork Little Kanawha River at Rocksdale	205	---	---	---	26.63	---	Nov 19	---	---	---
03155000	Little Kanawha River at Palestine	1,516	65	3,238	145	35.22	40,400	Nov 20	5-10	107	---
	KANAWHA RIVER BASIN										
03179000	Bluestone River nr Pipestem	395	54	750	158	15.57	18,700	Nov 19	25-50	68	13.3
03180500	Greenbrier River at Durbin	133	61	371	139	7.33	7,390	Feb 6	5	14	2.3
03182500	Greenbrier River at Buckeye	540	75	1,236	138	15.91	31,800	Nov 19	10	68	13.9
03183500	Greenbrier River at Alderson	1,364	109	2,768	138	16.88	45,400	Nov 20	5	159	---
03184000	Greenbrier River at Hilldale	1,619	68	3,314	144	19.57	49,000	Nov 20	5	125	---
03184500	New River at Hinton	6,256	67	---	---	9.05	---	Nov 20	---	---	---
03185000	Piney Creek at Raleigh	52.7	32	130	201	9.12	2,790	May 31	10-25	19	.7
03185400	New River at Thurmond	6,687	23	12,270	R138	19.05	84,600	Nov 20	---	2,270	---
03186500	Williams River at Dyer	128	75	437	130	16.99	20,000	Nov 19	50	10	2.3
03187000	Gauley River at Camden-on-Gauley	236	---	---	---	22.65	---	Nov 19	---	---	---
03187500	Cranberry River nr Richwood	80.4	45	299	128	11.90	12,200	Nov 19	50	10	2.9
03189100	Gauley River near Craigsville	529	19	1,858	129	25.94	63,500	Nov 19	50-100	56	---
03189600	Gauley River below Summersville Dam	806	33	---	---	18.50	---	Nov 20	---	---	---
03190400	Meadow River nr Mt. Lookout	365	35	992	134	16.31	27,200	May 29 Nov 19	>100	33	16.9

Table 1.--Mean, maximum, and minimum stream statistics for water year 2004 at selected stations in West Virginia--Continued.

[$7Q_{10}$: 7-day minimum mean streamflow for 10-year recurrence interval; R: regulated period only; ---: unknown or not applicable.]

Station number	Station name	Drainage Area (mi^2)	Years of Discharge Record	MEAN: Daily Streamflow (ft^3/s)	MEAN: Percent of Average	MAXIMUM: Peak Stage (ft)	MAXIMUM: Peak Discharge (ft^3/s)	MAXIMUM:	MAXIMUM: Recurrence Interval (Years) (a)	MINIMUM: 7-day Mean Streamflow (ft^3/s)	MINIMUM: $7Q_{10}$ Streamflow (ft^3/s) (b)
	KANAWHA RIVER BASIN--Continued										
03191500	Peters Creek nr Lockwood	40.2	32	101	156	14.79	5,030	Nov 12	10	7.5	.1
03192000	Gauley River above Belva	1,317	76	3,950	R137	19.23	47,800	Nov 19	2-5	249	---
03193000	Kanawha River at Kanawha Falls	8,371	127	17,730	R146	22.06	147,000	Nov 19	---	2,570	---
03194700	Elk River below Webster Springs	266	44	835	120	13.76	23,000	Nov 19	10-25	43	13.7
03195500	Elk River at Sutton	542	---	---	---	20.89	---	Feb 7	---	---	---
03196600	Elk River near Frametown	751	---	---	---	15.45	---	Nov 19	---	---	---
03196800	Elk River at Clay	992	---	---	---	20.96	---	Nov 19	---	---	---
03197000	Elk River at Queen Shoals	1,145	76	2,887	R134	23.34	39,200	Nov 19	5-10	156	---
03197990	Kanawha River at Charleston	10,448	65	22,790	R150	37.65	156,000	Nov 20	---	2,990	---
03198350	Clear Fork at Whitesville	62.8	8	141	160	21.96	5,370	Nov 19	---	8.2	---
03198500	Big Coal River at Ashford	391	82	872	165	25.95	24,900	Nov 19	10-25	88	4.7
03200500	Coal River at Tornado	862	46	1,859	152	28.98	32,500	Nov 20	10	209	13.3
03201405	Hurricane Creek at Hurricane	26.8	5	62.2	174	18.01	3,690	Nov 19	---	1.1	---
	GUYANDOTTE RIVER BASIN										
03202400	Guyandotte River nr Baileysville	306	36	625	146	23.82	28,000	Nov 19	25-50	110	33.3
03202750	Clear Fork at Clear Fork	126	30	279	143	14.18	8,250	Nov 19	10-25	23	7.1
03202915	Guyandotte River below R.D. Bailey Dam	535	---	---	---	9.13	---	Feb 6	---	---	---
03203000	Guyandotte River at Man	758	---	---	---	14.85	---	Nov 19	---	---	---
03203600	Guyandotte River at Logan	833	42	1,689	R149	26.21	26,000	May 31	---	212	---
03204000	Guyandotte River at Branchland	1,224	---	---	---	28.54	---	Nov 20	---	---	---
	TWELVEPOLE CREEK BASIN										
03206600	East Fork Twelvepole Creek nr Dunlow	38.5	40	72	137	13.71	2,780	Nov 19	5-10	3.9	.03
03206790	EF Twelvepole Creek below East Lynn Dam	138	---	---	---	12.07	---	Feb 7	---	---	---
03207020	Twelvepole Creek below Wayne	291	---	---	---	24.57	---	Nov 13	---	---	---
	BIG SANDY RIVER BASIN										
03212750	Tug Fork at Welch	174	16	339	166	15.17	8,080	Nov 19	5-10	76	---
03212980	Dry Fork at Beartown	209	16	359	155	11.98	9,990	Nov 19	5-10	54	---
03213500	Panther Creek nr Panther	31.0	41	55	157	9.04	2,640	Nov 19	2-5	6.8	.16
03213700	Tug Fork at Williamson	936	37	1,655	146	29.08	23,800	Nov 20	2-5	240	---
03214500	Tug Fork at Kermit	1,280	19	2,206	149	39.73	2,790	May 31	2-5	324	---

a Based on U.S. Geological Survey Water-Resources Investigations Report 00-4080.

b Based on U.S. Geological Survey Water-Resources Investigations Report 88-4072.

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DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, 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 main-stream station are listed before that station. A station on a tributary entering between two main-stream 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 indention 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.

As an added means of identification, each hydrologic station and partial-record station has 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 (or 10-digit) number for each station such as 09004100, which appears just to the left of the station name, includes a 2-digit part number "09" plus the 6-digit (or 8-digit) downstream order number "004100." In areas of high station density, an additional two digits may be added to the station identification number to yield a 10-digit number. The stations are numbered in downstream order as described above between stations of consecutive 8-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 6 digits denote the degrees, minutes, and seconds of latitude, and the next 7 digits denote degrees, minutes, and seconds of longitude; the last 2 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 one would for wells (see fig. 3). The 8-digit, downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description.

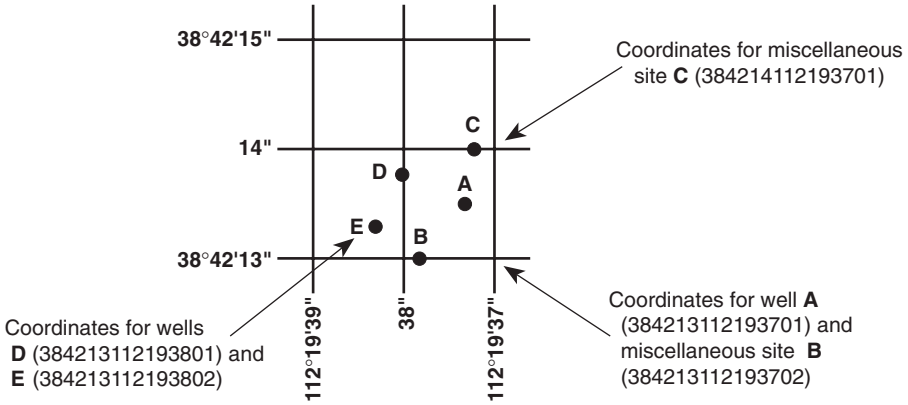

Figure 3.--System for numbering wells and miscellaneous sites (latitude and longitude).

Well records furnished by the State of West Virginia also included the well number that was based on an indexing system used by the State Water Resources Board.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 61 sites in small drainage basins in 39 States that was established in 1963 to provide consistent streamflow data representative of undeveloped watersheds nationwide, and from which data could be analyzed on a continuing basis for use in comparison and contrast with conditions observed in basins more obviously affected by human activities. At selected sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the effects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program may be accessed from *http://water.usgs.gov/hbn/*.

National Stream-Quality Accounting Network (NASQAN) is a network of sites used to monitor the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande River basins. For the period 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia Rivers so that a network of 5 stations could be implemented on the Yukon River. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment NAWQA) Program; (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN Program may be accessed from *http://water.usgs.gov/nasqan/*.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) is a network of monitoring sites that provides continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from this network of 250 precipitation-chemistry monitoring sites. The USGS supports 74 of these 250 sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as data from the individual sites, may be accessed from *http://bqs.usgs.gov/acidrain/*.

The USGS National Water-Quality Assessment (NAWQA) Program is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; to provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and to provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 42 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of

the Nation's water use. A wide array of chemical constituents is measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for water-resources managers to use in making decisions and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and Federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key Federal, State, and local water-resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies. Additional information about the NAWQA Program may be accessed from *http://water.usgs.gov/nawqa/*.

The USGS National Streamflow Information Program (NSIP) is a long-term program with goals to provide framework streamflow data across the Nation. Included in the program are creation of a permanent Federally funded streamflow network, research on the nature of streamflow, regional assessments of streamflow data and databases, and upgrades in the streamflow information delivery systems. Additional information about NSIP may be accessed from *http://water.usgs.gov/nsip/*.

EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS

Data Collection and Computation

The base data collected at gaging stations (fig. 4) consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and volume of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that is either downloaded electronically in the field to a laptop computer or similar device or is transmitted using telemetry such as GOES satellite, land-line or cellular-phone modems, or by radio transmission. Measurements of discharge are made with a current meter or acoustic Doppler current profiler, using the general methods adopted by the USGS. These methods are described in standard textbooks, USGS Water-Supply Paper 2175, and the Techniques of Water-Resources Investigations of the United States Geological Survey (TWRIs), Book 3, Chapters A1 through A19 and Book 8, Chapters A2 and B2, which may be accessed from *http://water.usgs.gov/pubs/twri/*. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standardization (ISO).

For stream-gaging stations, 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 frequent or continual change in the physical features of the stream channel, the daily mean discharge is computed by the shifting-control method in which correction factors based on individual discharge measurements and notes by engineers and observers are used when applying the gage heights to the rating tables. If the stage-discharge relation

for a station is temporarily changed by the presence of aquatic growth or debris on the controlling section, the daily mean discharge is computed by the shifting-control method.

The stage-discharge relation at some stream-gaging stations 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.

An index velocity is measured using ultrasonic or acoustic instruments at some stream-gaging stations and this index velocity is used to calculate an average velocity for the flow in the stream. This average velocity along with a stage-area relation is then used to calculate average discharge.

At some stations, 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 stream-gaging stations in the northern United States, 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 hydrologists, and comparable records of discharge from other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the volume or contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly changes are computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some stream-gaging stations, 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. Likewise, lake or reservoir volumes may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

Data Presentation

The records published for each continuous-record surface-water discharge station (stream-gaging station) consist of five parts: (1) the station manuscript or description; (2) the data table of daily mean values of discharge for the current water year with summary data; (3) a tabular statistical summary of monthly mean flow data for a designated period, by water year; (4) a 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; and (5) a hydrograph of discharge.

Station Manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. 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 gaging station 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, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.—Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas 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.

REVISED RECORDS.—If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

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.

REMARKS.—All periods of estimated daily discharge either will be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See section titled Identifying Estimated Daily Discharge.) Information is presented relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, the outlet works and spillway, and the purpose and use of the reservoir.

COOPERATION.—Records provided by a cooperating organization or obtained for the USGS by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.—Information here documents major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the USGS.

REVISIONS.—Records are revised if errors in published records are discovered. Appropriate updates are 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.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because no current or, possibly, future station manuscript would be published for these stations to document the revision in a REVISED RECORDS entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the Water Science Center (address given on the back of the title page of this report) to determine if the published records were revised after the station was discontinued. If, however, the data for a discontinued station were obtained by computer retrieval, the data would be current. Any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the REMARKS and in the inclusion of a stage-capacity table when daily volumes are given.

Peak Discharge Greater than Base Discharge

Tables of peak discharge above base discharge are included for some stations where secondary instantaneous peak discharge data are used in flood-frequency studies of highway and bridge design, flood-control structures, and other flood-related projects. The base discharge value is selected so an average of three peaks a year will be reported. This base discharge value has a recurrence interval of approximately 1.1 years or a 91-percent chance of exceedence in any 1 year.

Data Table of Daily Mean Values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed TOTAL gives the sum of the daily figures for each month; the line headed MEAN gives the arithmetic average flow in cubic feet per second for the month; and the lines headed MAX and MIN give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month is expressed in cubic feet per second per square mile (line headed CFSM); or in inches (line headed IN); or in acre-feet (line headed AC-FT). Values for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if extensive regulation or diversion is in effect or if the drainage area includes large noncontributing areas. At some stations, monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir volumes are given. These values are identified by a symbol and a corresponding footnote.

Statistics of Monthly Mean Data

A tabular summary of the mean (line headed MEAN), maximum (MAX), and minimum (MIN) of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those values. The designated period will be expressed as FOR WATER YEARS __-__, BY WATER YEAR (WY), and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. The designated period will consist of all of the station record within the specified water years, including complete months of record for partial water years, and may 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.

Summary Statistics

A table titled SUMMARY STATISTICS follows the statistics of monthly mean data tabulation. This table consists of four columns with the first column containing the line headings of the statistics being

reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. 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, and may 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 or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When the dates of occurrence do not fall within the selected water years listed in the heading, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration-curve statistics and runoff data also are given. Runoff data may be omitted if extensive regulation or diversion of flow is in effect in the drainage basin.

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 SUMMARY STATISTICS table.

ANNUAL TOTAL.—The sum of the daily mean values of discharge for the year.

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 year or for the designated period.

LOWEST DAILY MEAN.—The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.—The lowest mean discharge for 7 consecutive days for a calendar year or 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 water year or designated period. Occasionally the maximum flow for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak flow is given in the table and the maximum flow may be reported in a footnote or in the REMARKS paragraph in the manuscript.

MAXIMUM PEAK STAGE.—The maximum instantaneous peak stage occurring for the water year or designated period. Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.—The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.—Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

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 EXCEEDS.—The discharge that has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.—The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.—The discharge that has been exceeded 90 percent of the time for the designated period.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first table lists annual maximum stage and discharge at crest-stage stations, and the second table lists discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are often made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for a special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified. This identification is shown either by flagging individual daily values with the letter “e” and noting in a table footnote, “e–Estimated,” or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of Field Data and Computed Results

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

The degree of accuracy of the records is stated in the REMARKS in the station description. "Excellent" indicates that about 95 percent of the daily discharges are within 5 percent of the true value; "good" within 10 percent; and "fair," within 15 percent. "Poor" indicates that daily discharges have less than "fair" accuracy. Different accuracies may be attributed to different parts of a given record.

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 ft^3/s; to the nearest tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharge values listed for partial-record stations.

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

Other Data Records Available

Information of a more detailed nature than that published for most of the stream-gaging stations such as discharge measurements, gage-height records, and rating tables is available from the Water Science Center. Also, most stream-gaging station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the Water Science Center (see address that is shown on the back of the title page of this report).

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

Surface-water samples for analysis usually are collected at or near stream-gaging stations. The quality-of-water records 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 parameters that are measured on a daily basis (specific conductance, water temperature, sediment discharge, and so forth); extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, sampling date, or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water Analysis

Most of the methods used for collecting and analyzing water samples are described in the TWRIs, which may be accessed from *http://water.usgs.gov/pubs/twri/*.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross-section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled at several verticals to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values (and sometimes mean or median values) for each constituent measured, and are based on 15-minute or 1-hour intervals of recorded data beginning at 0000 hours and ending at 2400 hours for the day of record.

SURFACE-WATER-QUALITY RECORDS

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because discharge data are useful in the interpretation of surface-water quality. Records of surface-water quality in this report involve a variety of types of data and measurement frequencies.

Classification of Records

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

A careful distinction needs to be made between *continuous records* as used in this report and *continuous recordings* that refer to a continuous graph or a series of discrete values recorded at short intervals. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently.

Accuracy of the Records

One of four accuracy classifications is applied for measured physical properties at continuous-record stations on a scale ranging from poor to excellent. The accuracy rating is based on data values recorded before any shifts or corrections are made. Additional consideration also is given to the amount of publishable record and to the amount of data that have been corrected or shifted.

Rating classifications for continuous water-quality records

[≤, less than or equal to; ±, plus or minus value shown; °C, degree Celsius; >, greater than; %, percent; mg/L, milligram per liter; pH unit, standard pH unit]

Measured physical property	Rating			
	Excellent	Good	Fair	Poor
Water temperature	≤ ±0.2 °C	> ±0.2 to 0.5 °C	> ±0.5 to 0.8 °C	> ±0.8 °C
Specific conductance	≤ ±3%	> ±3 to 10%	> ±10 to 15%	> ±15%
Dissolved oxygen	≤ ±0.3 mg/L	> ±0.3 to 0.5 mg/L	> ±0.5 to 0.8 mg/L	> ±0.8 mg/L
pH	≤ ±0.2 unit	> ±0.2 to 0.5 unit	> ±0.5 to 0.8 unit	> ±0.8 unit
Turbidity	≤ ±5%	> ±5 to 10%	> ±10 to 15%	> ±15%

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-Site Measurements and Sample Collection

In obtaining water-quality data, a major concern is assuring that the data obtained represent the naturally occurring quality of the water. To ensure this, certain measurements, such as water temperature, pH, and dissolved oxygen, must be made on site when the samples are taken. To assure that measurements made in the laboratory also represent the naturally occurring water, carefully prescribed procedures must be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1-A9. Most of the methods used for collecting and analyzing water samples are described in the TWRIs, which may be accessed from *http://water.usgs.gov/pubs/twri/*. Also, detailed information on collecting, treating, and shipping samples can be obtained from the USGS Water Science Center (see address that is shown on the back of title page in this report).

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the time of discharge measurements for water-discharge 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.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the Water Science Center.

Sediment

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 more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were 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 quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Samples for biochemical oxygen demand (BOD) and indicator bacteria are analyzed locally. All other samples are analyzed in the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chapter C1. Methods used by the USGS laboratories are given in the TWRIs, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. The TWRI publications may be accessed from *http://water.usgs.gov/pubs/twri/*. These methods are consistent with ASTM standards and generally follow ISO standards.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of “daily values” of

specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

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

LOCATION.—See Data Presentation information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

DRAINAGE AREA.—See Data Presentation information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

PERIOD OF RECORD.—This indicates the time periods for which published water-quality records for the station are available. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.—Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

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

COOPERATION.—Records provided by a cooperating organization or obtained for the USGS by a cooperating organization are identified here.

EXTREMES.—Maximums and minimums are given only for parameters measured daily or more frequently. For parameters measured weekly or less frequently, true maximums or minimums may not have been obtained. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.—Records are revised if errors in published water-quality records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (*http://waterdata.usgs.gov/nwis*). Users of USGS water-quality data are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent updates. Updates to the NWISWeb are made on an annual basis.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

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

Printed Output	Remark
E	Value is estimated.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
M	Presence of material verified, but not quantified.
N	Presumptive evidence of presence of material.
U	Material specifically analyzed for, but not detected.
A	Value is an average.
V	Analyte was detected in both the environmental sample and the associated blanks.
S	Most probable value.

Water-Quality Control Data

The USGS National Water Quality Laboratory collects data on a continuing basis to evaluate selected analytical methods to determine long-term method detection levels (LT-MDLs) and laboratory reporting levels (LRLs). These values are re-evaluated each year on the basis of the most recent quality-control data and, consequently, may change from year to year.

This reporting procedure limits the occurrence of false positive error. Falsely reporting a concentration greater than the LT-MDL for a sample in which the analyte is not present is 1 percent or less. Application of the LRL limits the occurrence of false negative error. The chance of falsely reporting a non-detection for a sample in which the analyte is present at a concentration equal to or greater than the LRL is 1 percent or less.

Accordingly, concentrations are reported as less than LRL for samples in which the analyte was either not detected or did not pass identification. Analytes detected at concentrations between the LT-MDL and the LRL and that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of “E.” These data should be used with the understanding that their uncertainty is greater than that of data reported without the E remark code.

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC samples collected by this Water Science Center are described in the following section. Procedures have been established for the storage of water-quality-control data within the USGS. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples. These data are not presented in this report but are available from the Water Science Center.

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated in the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. Many types of blank samples are possible; each is designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this Water Science Center are:

Field blank—A blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank—A blank solution that is put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank—A blank solution that is processed through all equipment used for collecting and processing an environmental sample similar to a field blank but normally done in the more controlled conditions of the office.

Sampler blank—A blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank—A blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank—A blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank—A blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory. The reference material composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. Many types of replicate samples are possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this Water Science Center are:

Concurrent samples—A type of replicate sample in which the samples are collected simultaneously with two or more samplers or by using one sampler and alternating the collection of samples into two or more compositing containers.

Sequential samples—A type of replicate sample in which the samples are collected one after the other, typically over a short time.

Split sample—A type of replicate sample in which a sample is split into subsamples, each subsample contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.

EXPLANATION OF GROUND-WATER-LEVEL RECORDS

Generally, only ground-water-level data from selected wells with continuous recorders from a basic network of observation wells are published in this report. This basic network contains observation wells located so that the most significant data are obtained from the fewest wells in the most important aquifers.

Site Identification Numbers

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is produced for local needs. (See NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES, p. 11, for a detailed explanation.)

Data Collection and Computation

Measurements are made in many types of wells, under varying conditions of access and at different temperatures; hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Most methods for collecting and analyzing water samples are described in the TWRIs referred to in the On-site Measurements and Sample Collection and the Laboratory Measurements sections in this report. In addition, TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1 through A9. The TWRI publications may be accessed from *http://water.usgs.gov/pubs/twri/*. The values in this report represent water-quality conditions at the time of sampling, as much as possible, and that are consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. Trained personnel collected all samples. The wells sampled were pumped long enough to ensure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

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 levels in wells equipped with recording gages are reported for every fifth day and the end of each month (EOM).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth of water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Data Presentation

Water-level data are presented in alphabetical order by county. The primary identification number for a given well is the 15-digit site identification number that appears in the upper left corner of the table. The secondary identification number is the local or county well number. Well locations are shown in figure 5; each well is identified on the map by its local well or county well number.

Each well record consists of three parts: the well description, the data table of water levels observed during the water year, and, for most wells, a hydrograph following the data table. Well descriptions are presented in the headings preceding the tabular data.

The following comments clarify information presented in these various headings.

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 reported as North American Datum of 1927 unless otherwise specified.

AQUIFER.—This entry designates by name and geologic age the aquifer that the well taps.

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.

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

DATUM.—This entry describes both the measuring point and the land-surface elevation at the well. The altitude of the land-surface datum is described in feet above the altitude 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 National Geodetic Vertical Datum of 1929 (NGVD 29); it is reported with a precision depending on the method of determination.

REMARKS.—This entry describes factors that may influence the water level in a well or the measurement of the water level, when various methods of measurement were begun, and the network climatic, terrane, local, or areal effects, or the special project to which the well belongs.

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 publication of water-level records by the USGS, and the words "to current year" if the records are to be continued into the following year. Time periods for which water-level records are available, but are not published by the USGS, may be noted.

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 or sea level, and the dates of occurrence.

Water-Level Tables

A table of water levels follows the well description for each well. Water-level measurements in this report are given in feet with reference to either sea level or land-surface datum (lsd). Missing records are indicated by dashes in place of the water-level value.

For wells not equipped with recorders, water-level measurements were obtained periodically by steel or electric tape. Tables of periodic water-level measurements in these wells show the date of measurement and the measured water-level value.

Hydrographs

Hydrographs are a graphic display of water-level fluctuations over a period of time. In this report, current water year and, when appropriate, period-of-record hydrographs are shown. Hydrographs that display periodic water-level measurements show points that may be connected with a dashed line from one measurement to the next. Hydrographs that display recorder data show a solid line representing the mean water level recorded for each day. Missing data are indicated by a blank space or break in a hydrograph. Missing data may occur as a result of recorder malfunctions, battery failures, or mechanical problems related to the response of the recorder's float mechanism to water-level fluctuations in a well.

GROUND-WATER-QUALITY DATA

Data Collection and Computation

The ground-water-quality data in this report were obtained as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some wells within a county but not for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide.

Most methods for collecting and analyzing water samples are described in the TWRIs, which may be accessed from *http://water.usgs.gov/pubs/twri/*. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRI, Book 1, Chapter D2; and Book 5, Chapters A1, A3, and A4. Also, detailed information on collecting, treating, and shipping samples may be obtained from the USGS Water Science Center (see address shown on back of title page in this report).

Laboratory Measurements

Analysis for sulfide and measurement of alkalinity, pH, water temperature, specific conductance, and dissolved oxygen are performed on site. All other sample analyses are performed at the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used by the USGS laboratory are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4, which may be accessed from *http://water.usgs.gov/pubs/twri/*.

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed from *http://water.usgs.gov*.

Water-quality data and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on various media. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each Water Discipline Water Science Center (See address that is shown on the back of the title page of this report.)

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DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Terms such as algae, water level, and precipitation are used in their common everyday meanings, definitions of which are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting English units to International System (SI) Units. Other glossaries that also define water-related terms are accessible from *http://water.usgs.gov/glossaries.html*.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an "unfiltered" sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also "Annual runoff")

Adenosine triphosphate (ATP) is an organic, phosphate-rich compound important in the transfer of energy in organisms. Its central role in living cells makes ATP an excellent indicator of the presence of living material in water. A measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter.

Adjusted discharge is discharge data that have been mathematically adjusted (for example, to remove the effects of a daily tide cycle or reservoir storage).

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample. (See also "Biomass" and "Dry weight")

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a "filtered" sample.

Annual runoff is the total quantity of water that is discharged ("runs off") from a drainage basin in a year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 through September 30). Most low-flow frequency analyses use a climatic year (April 1-March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. 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.)

Aroclor is the registered trademark for a group of polychlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type, and the last two digits represent the percentage weight of the hydrogen-substituted chlorine.

Artificial substrate is a device that purposely is placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is collected. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection. (See also "Substrate")

Ash mass is the mass or amount of residue present after the residue from a dry-mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2). (See also "Biomass" and "Dry mass")

Aspect is the direction toward which a slope faces with respect to the compass.

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

Bankfull stage, as used in this report, is the stage at which a stream first overflows its natural banks formed by floods with 1- to 3-year recurrence intervals.

Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each station is selected so that an average of about three peak flows per year will be published. (See also "Peak flow")

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed. (See also "Bedload" and "Sediment")

Bedload is material in transport that primarily is supported by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to the top of the bedload sampler nozzle (an elevation ranging from 0.25 to 0.5 foot). These particles are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler also may contain a component of the suspended load.

Bedload discharge (tons per day) is the rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time. NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also "Bedload," "Dry weight," "Sediment," and "Suspended-sediment discharge")

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as mass per unit area or volume of habitat.

Biomass pigment ratio is an indicator of the total proportion of periphyton that are autotrophic (plants). This also is called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) are a group of phytoplankton and periphyton organisms with a blue pigment in addition to a green pigment called chlorophyll. Blue-green algae can cause nuisance water-quality conditions in lakes and slow-flowing rivers; however, they are found commonly in streams throughout the year. The abundance of blue-green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (μm^3/mL). The abundance of blue-green algae in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton"and "Periphyton")

Bottom material (See "Bed material")

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of the material including the dissolved-solids content of the pore water, and the lithology and porosity of the rock.

Canadian Geodetic Vertical Datum 1928 is a geodetic datum derived from a general adjustment of Canada's first order level network in 1928.

Cell volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are used frequently in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements or cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

$$\text{sphere } 4/3\ \pi r^3 \quad \text{cone } 1/3\ \pi r^2 h \quad \text{cylinder } \pi r^2 h.$$

pi (π) is the ratio of the circumference to the diameter of a circle; pi = 3.14159….

From cell volume, total algal biomass expressed as biovolume (μm^3/mL) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes for all species.

Cells/volume refers to the number of cells of any organism that is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per

sample volume, and generally are reported as cells or units per milliliter (mL) or liter (L).

Cfs-day (See "Cubic foot per second-day")

Channel bars, as used in this report, are the lowest prominent geomorphic features higher than the channel bed.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also "Biochemical oxygen demand (BOD)"]

Clostridium perfringens *(C. perfringens)* is a spore-forming bacterium that is common in the feces of human and other warmblooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and the presence of microorganisms that are resistant to disinfection and environmental stresses. (See also "Bacteria")

Coliphages are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of water and of the survival and transport of viruses in the environment.

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

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well.

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

Continuous-record station is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.

Control designates a feature in the channel that physically affects the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, an artificial structure, or a uniform cross section over a long reach of the channel.

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

Cubic foot per second (CFS, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term "second-foot" sometimes is used synonymously with "cubic foot per second" but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, [$(ft^3/s)/d$]) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily mean discharges reported in the daily value data tables numerically are equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, $(ft^3/s)/mi^2$] 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. (See also "Annual runoff")

Daily mean suspended-sediment concentration is the time-weighted mean concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also "Sediment" and "Suspended-sediment concentration")

Daily record station is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to data collection on a daily or near-daily basis.

Data collection platform (DCP) is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.

Data logger is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data usually are downloaded from onsite data loggers for entry into office data systems.

Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or Universal Transverse Mercator (UTM) coordinates. (See also "Gage datum," "Land-surface datum," "National Geodetic Verti-

cal Datum of 1929," and "North American Vertical Datum of 1988")

Diatoms *(Bacillariophyta)* are unicellular or colonial algae with a siliceous cell wall. The abundance of diatoms in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (μm^3/mL). The abundance of diatoms in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton" and "Periphyton")

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or **flow**, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediment or other constituents suspended or dissolved in the water) that passes a cross section in a stream channel, canal, pipeline, and so forth, within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents, such as suspended sediment, bedload, and dissolved or suspended chemicals, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal and State agencies that collect water-quality data. Determinations of "dissolved" constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4917 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L $CaCO_3$) can be converted to carbonate concentration by multiplying by 0.60.

Diversity index (H) (Shannon index) is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = -\sum_{i \approx 1}^{s} \frac{n_i}{n} \log_2 \frac{n_i}{n},$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth's surface that contains a drainage system with a common outlet for its surface runoff. (See "Drainage area")

Dry mass refers to the mass of residue present after drying in an oven at 105 °C, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass. (See also "Ash mass," "Biomass," and "Wet mass")

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also "Wet weight")

Embeddedness is the degree to which gravel-sized and larger particles are surrounded or enclosed by finer-sized particles. (See also "Substrate embeddedness class")

Enterococcus bacteria commonly are found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus feacalis, Streptococcus*

feacium, Streptococcus avium, and their variants. (See also "Bacteria")

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that generally are considered pollution sensitive; the index usually decreases with pollution.

Escherichia coli *(E. coli)* are bacteria present in the intestine and feces of warmblooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Estimated (E) value of a concentration is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an E code will be reported with the value. If the analyte is identified qualitatively as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an E code even though the measured value is greater than the MDL. A value reported with an E code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<). For bacteriological data, concentrations are reported as estimated when results are based on non-ideal colony counts.

Euglenoids (*Euglenophyta*) are a group of algae that usually are free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also "Phytoplankton")

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semivolatile and extractable by ethyl acetate from air-dried streambed sediment. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediment.

Fecal coliform bacteria are present in the intestines or feces of warmblooded animals. They often are used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5 °C plus or minus 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Fecal streptococcal bacteria are present in the intestines of warmblooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C plus or minus 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Filtered pertains to constituents in a water sample passed through a filter of specified pore diameter, most commonly 0.45 micrometer or less for inorganic analytes and 0.7 micrometer for organic analytes.

Filtered, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that has passed through a filter has been extracted. Complete recovery is not achieved by the extraction procedure and thus the analytical determination represents something less than 95 percent of the total constituent concentration in the sample. To achieve comparability of analytical data, equivalent extraction procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results.

Fire algae (*Pyrrhophyta*) are free-swimming unicells characterized by a red pigment spot. (See also "Phytoplankton")

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly greater than the maximum depth of water. Because the gage datum is not an actual physical object, the datum is usually defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any national geodetic datum. However, if the elevation of the gage datum relative to the national datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the national datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height often is used interchangeably with the more general term "stage," although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted, and/or computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

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

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Geomorphic channel units, as used in this report, are fluvial geomorphic descriptors of channel shape and stream velocity. Pools, riffles, and runs are types of geomorphic channel units considered for National Water-Quality Assessment (NAWQA) Program habitat sampling.

Green algae *(Chlorophyta)* are unicellular or colonial algae with chlorophyll pigments similar to those in terrestrial green plants. Some forms of green algae produce mats or floating "moss" in lakes. The abundance of green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (μm^3/mL). The abundance of green algae in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton" and "Periphyton")

Habitat, as used in this report, includes all nonliving (physical) aspects of the aquatic ecosystem, although living components like aquatic macrophytes and riparian vegetation also are usually included. Measurements of habitat typically are made over a wider geographic scale than are measurements of species distribution.

Habitat quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

Hardness of water is a physical-chemical characteristic that commonly is recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate ($CaCO_3$).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. See NOAA Web site: *http://www.csc.noaa.gov/text/glossary.html* (see "High water")

Hilsenhoff's Biotic Index (HBI) is an indicator of organic pollution that uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = sum\frac{(n)(a)}{N},$$

where n is the number of individuals of each taxon, a is the tolerance value of each taxon, and N is the total number of organisms in the sample.

Horizontal datum (See "Datum")

Hydrologic index stations referred to in this report are continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

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

Inch (IN., in.), in reference to streamflow, as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were distributed uniformly on it. (See also "Annual runoff")

Instantaneous discharge is the discharge at a particular instant of time. (See also "Discharge")

International Boundary Commission Survey Datum refers to a geodetic datum established at numerous monuments along the United States-Canada boundary by the International Boundary Commission.

Island, as used in this report, is a mid-channel bar that has permanent woody vegetation, is flooded once a year, on average, and remains stable except during large flood events.

Laboratory reporting level (LRL) generally is equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or

equal to 1 percent. The value of the LRL will be reported with a "less than" (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most current quality-control data and, therefore, may change. The LRL replaces the term 'non-detection value' (NDV).

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

Latent heat flux (often used interchangeably with latent heat-flux density) is the amount of heat energy that converts water from liquid to vapor (evaporation) or from vapor to liquid (condensation) across a specified cross-sectional area per unit time. Usually expressed in watts per square meter.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation:

$$I = I_o e^{-\lambda L},$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L}\log_e \frac{I}{I_o}.$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Long-term method detection level (LT-MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike-sample measurements over an extended period of time. LT-MDL data are collected on a continuous basis to assess year-to-year variations in the LT-MDL. The LT-MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT-MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. See NOAA Website: *http://www.csc.noaa.gov/text/glossary.html* (see "Low water")

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that usually are arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a stream cross section during a given time period. (See also "Daily mean suspended-sediment concentration" and "Suspended-sediment concentration")

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

Mean high or **low tide** is the average of all high or low tides, respectively, over a specific period.

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also "Datum")

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

Megahertz is a unit of frequency. One megahertz equals one million cycles per second.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Method code is a one-character code that identifies the analytical or field method used to determine a value stored in the National Water Information System (NWIS).

Method detection limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a

sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted to be less than or equal to 1 percent.

Method of Cubatures is a method of computing discharge in tidal estuaries based on the conservation of mass equation.

Methylene blue active substances (MBAS) indicate the presence of detergents (anionic surfactants). The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (UG/G, µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per kilogram (UG/KG, µg/kg) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

Microsiemens per centimeter (US/CM, µS/cm) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of dry sediment per liter of water-sediment mixture.

Minimum reporting level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method.

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD 29) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It formerly was called "Sea Level Datum of 1929" or "mean sea level." Although the datum was derived from the mean sea level at 26 tide stations**,** it does not necessarily represent local mean sea level at any particular place. *See NOAA Web site: http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88* (See "North American Vertical Datum of 1988")

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives. (See also "Substrate")

Nekton are the consumers in the aquatic environment and consist of large, free-swimming organisms that are capable of sustained, directed mobility.

Nonfilterable refers to the portion of the total residue retained by a filter.

North American Datum of 1927 (NAD 27) is the horizontal control datum for the United States that was defined by a location and azimuth on the Clarke spheroid of 1866.

North American Datum of 1983 (NAD 83) is the horizontal control datum for the United States, Canada, Mexico, and Central America that is based on the adjustment of 250,000 points including 600 satellite Doppler stations that constrain the system to a geocentric origin. NAD 83 has been officially adopted as the legal horizontal datum for the United States by the Federal government.

North American Vertical Datum of 1988 (NAVD 88) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and

mapping activities in the United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian**,** Mexican, and United States first-order terrestrial leveling networks.

Open or **screened interval** is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediment. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or **volatile mass** of a living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass. (See also "Ash mass," "Biomass," and "Dry mass")

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

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

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

Classification	Size (mm)	Method of analysis
Clay	>0.00024 - 0.004	Sedimentation
Silt	>0.004 - 0.062	Sedimentation
Sand	>0.062 - 2.0	Sedimentation/sieve
Gravel	>2.0 - 64.0	Sieve
Cobble	>64 - 256	Manual measurement
Boulder	>256	Manual measurement

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

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

Percent composition or **percent of total** is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, weight, mass, or volume.

Percent shading is a measure of the amount of sunlight potentially reaching the stream. A clinometer is used to measure left and right bank canopy angles. These values are added together, divided by 180, and multiplied by 100 to compute percentage of shade.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measure-

ments are made one or more times during a year but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. Although primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7.0 standard units are termed "acidic," and solutions with a pH greater than 7.0 are termed "basic." Solutions with a pH of 7.0 are neutral. The presence and concentration of many dissolved chemical constituents found in water are affected, in part, by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms also are affected, in part, by the hydrogen-ion activity of water.

Phytoplankton is the plant part of the plankton. They usually are microscopic, and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and commonly are known as algae. (See also "Plankton")

Picocurie (PC, pCi) is one-trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

Pool, as used in this report, is a small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [mg C/(m^2/time)] for periphyton and macrophytes or per volume [mg C/(m^3/time)] for phytoplankton. The carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light- and dark-bottle method and is preferred for use with unenriched water samples. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [mg O/(m^2/time)] for periphyton and macrophytes or per volume [mg O/(m^3/time)] for phytoplankton. The oxygen method defines production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light- and dark-bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Radioisotopes are isotopic forms of elements that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Reach, as used in this report, is a length of stream that is chosen to represent a uniform set of physical, chemical, and biological conditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

Recoverable is the amount of a given constituent that is in solution after a representative water sample has been

extracted or digested. Complete recovery is not achieved by the extraction or digestion and thus the determination represents something less than 95 percent of the constituent present in the sample. To achieve comparability of analytical data, equivalent extraction or digestion procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results. (See also "Bed material")

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or nonexceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day, 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See "Recurrence interval")

Riffle, as used in this report, is a shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council and typically is used to denote location along a river.

Run, as used in this report, is a relatively shallow part of a stream with moderate velocity and little or no surface turbulence.

Runoff is the quantity of water that is discharged ("runs off") from a drainage basin during a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also "Annual runoff")

Salinity is the total quantity of dissolved salts, measured by weight in parts per thousand. Values in this report are calculated from specific conductance and temperature. Seawater has an average salinity of about 35 parts per thousand (for additional information, refer to: Miller, R.L., Bradford, W.L., and Peters, N.E., 1988, Specific conductance: theoretical considerations and application to analytical quality control: U.S. Geological Survey Water-Supply Paper 2311, 16 p.)

Sea level, as used in this report, refers to one of the two commonly used national vertical datums (NGVD 1929 or NAVD 1988). See separate entries for definitions of these datums.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as "fluvial sediment." Sediment includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Sensible heat flux (often used interchangeably with latent sensible heat-flux density) is the amount of heat energy that moves by turbulent transport through the air across a specified cross-sectional area per unit time and goes to heating (cooling) the air. Usually expressed in watts per square meter.

Seven-day, 10-year low flow ($7Q_{10}$) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-term average. The recurrence interval of the $7Q_{10}$ is 10 years; the chance that the annual 7-day minimum flow will be less than the $7Q_{10}$ is 10 percent in any given year. (See also "Annual 7-day minimum" and "Recurrence interval")

Shelves, as used in this report, are streambank features extending nearly horizontally from the flood plain to the lower limit of persistent woody vegetation.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Soil heat flux (often used interchangeably with soil heat-flux density) is the amount of heat energy that moves by conduction across a specified cross-sectional area of soil per unit time and goes to heating (or cooling) the soil. Usually expressed in watts per square meter.

Soil-water content is the water lost from the soil upon drying to constant mass at 105 °C; expressed either as mass of water per unit mass of dry soil or as the volume of water per unit bulk volume of soil.

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stable isotope ratio (per MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific water, to evaluate mixing of different water, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage (See "Gage height")

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

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

Substrate is the physical surface upon which an organism lives.

Substrate embeddedness class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2 mm, sand or finer). Below are the class categories expressed as the percentage covered by fine sediment:

0	no gravel or larger substrate	3	26-50 percent
1	> 75 percent	4	5-25 percent
2	51-75 percent	5	< 5 percent

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

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

Surrogate is an analyte that behaves similarly to a target analyte, but that is highly unlikely to occur in a sample. A surrogate is added to a sample in known amounts before extraction and is measured with the same laboratory procedures used to measure the target analyte. Its purpose is to monitor method performance for an individual sample.

Suspended is the amount (concentration) of undissolved material in a water-sediment mixture. Most commonly refers to that material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer filter has been extracted or digested. Complete recovery is not achieved by the extraction or digestion procedures and thus the determination represents less than 95 percent of the constituent present in the sample. To achieve comparability of analytical data, equivalent extraction or digestion procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results. (See also "Suspended")

Suspended sediment is sediment carried in suspension by the turbulent components of the fluid or by the Brownian movement (a law of physics). (See also "Sediment")

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also "Sediment" and "Suspended sediment")

Suspended-sediment discharge (tons/d) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027. (See also "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also "Sediment")

Suspended solids, total residue at 105 °C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total." Determinations of "suspended, total" constituents are made either by directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total concentrations of the constituent. (See also "Suspended")

Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxa (Species) richness is the number of species (taxa) present in a defined area or sampling unit.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchial scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata,* is the following:

Kingdom:	Animal
Phylum:	Arthropeda
Class:	Insecta
Order:	Ephemeroptera
Family:	Ephemeridae
Genus:	*Hexagenia*
Species:	*Hexagenia limbata*

Thalweg is the line formed by connecting points of minimum streambed elevation (deepest part of the channel).

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table descriptions and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (acre-foot) of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric ton per day.

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

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warmblooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-

negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35 °C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C plus or minus 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliters of sample. (See also "Bacteria")

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total length (fish) is the straight-line distance from the anterior point of a fish specimen's snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also "Organism count/volume")

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

Total sediment discharge is the mass of suspended-sediment plus bed-load transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also "Bedload," "Bedload discharge," "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Total sediment load or **total load** is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It differs from total sediment discharge in that load refers to the material, whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also "Sediment," "Suspended-sediment load," and "Total load")

Transect, as used in this report, is a line across a stream perpendicular to the flow and along which measurements are taken, so that morphological and flow characteristics along the line are described from bank to bank. Unlike a cross section, no attempt is made to determine known elevation points along the line.

Turbidity is an expression of the optical properties of a liquid that causes light rays to be scattered and absorbed rather than transmitted in straight lines through water. Turbidity, which can make water appear cloudy or muddy, is caused by the presence of suspended and dissolved matter, such as clay, silt, finely divided organic matter, plankton and other microscopic organisms, organic acids, and dyes (ASTM International, 2003, D1889–00 Standard test method for turbidity of water, *in* ASTM International, Annual Book of ASTM Standards, Water and Environmental Technology, v. 11.01: West Conshohocken, Pennsylvania, 6 p.). The color of water, whether resulting from dissolved compounds or suspended particles, can affect a turbidity measurement. To ensure that USGS turbidity data can be understood and interpreted properly within the context of the instrument used and site conditions encountered, data from each instrument type are stored and reported in the National Water Information System (NWIS) using parameter codes and measurement reporting units that are specific to the instrument type, with specific instruments designated by the method code. The respective measurement units, many of which also are in use internationally, fall into two categories: (1) the designations NTU, NTRU, BU, AU, and NTMU signify the use of a broad spectrum incident light in the wavelength range of 400-680 nanometers (nm), but having different light detection configurations; (2) The designations FNU, FNRU, FBU, FAU, and FNMU generally signify an incident light in the range between 780-900 nm, also with varying light detection configurations. These reporting units are equivalent when measuring a calibration solution (for example, formazin or polymer beads), but their respective instruments may not produce equivalent results for environmental samples. Specific reporting units are as follows:

NTU (Nephelometric Turbidity Units): white or broadband [400-680 nm] light source, 90 degree detection angle, one detector.

NTRU (Nephelometric Turbidity Ratio Units): white or broadband [400-680 nm] light source, 90 degree detection angle, multiple detectors with ratio compensation.

BU (Backscatter Units): white or broadband [400-680 nm] light source, 30 ± 15 degree detection angle (backscatter).

AU (Attenuation Units): white or broadband [400-680 nm] light source, 180 degree detection angle (attenuation).

NTMU (Nephelometric Turbidity Multibeam Units): white or broadband [400-680 nm] light source, multiple light sources, detectors at 90 degrees and possibly other angles to each beam.

FNU (Formazin Nephelometric Units): near infrared [780-900 nm] or monochrome light source, 90 degree detection angle, one detector.

FNRU (Formazin Nephelometric Ratio Units): near infrared [780-900 nm] or monochrome light source, 90 degree detection angle, multiple detectors, ratio compensation.

FBU (Formazin Backscatter Units): near infrared [780-900 nm] or monochrome light source, 30±15 degree detection angle.

FAU (Formazin Attenuation Units): near infrared [780-900 nm] light source, 180 degree detection angle.

FNMU (Formazin Nephelometric Multibeam Units): near infrared [780-900 nm] or monochrome light source, multiple light sources, detectors at 90 degrees and possibly other angles to each beam.

For more information please see *http://water.usgs.gov/owq/FieldManual/Chapter6/6.7_contents.html*.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of path length of UV light through a sample.

Unconfined aquifer is an aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure. (See "Water-table aquifer")

Unfiltered pertains to the constituents in an unfiltered, representative water-suspended sediment sample.

Unfiltered, recoverable is the amount of a given constituent in a representative water-suspended sediment sample that has been extracted or digested. Complete recovery is not achieved by the extraction or digestion treatment and thus the determination represents less than 95 percent of the constituent present in the sample. To achieve comparability of analytical data, equivalent extraction or digestion procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results.

Vertical datum (See "Datum")

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and, subsequently, analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They often are components of fuels, solvents, hydraulic fluids, paint thinners, and dry-cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human-health concern because many are toxic and are known or suspected human carcinogens.

Water table is that surface in a ground-water body at which the water pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which the water table is found.

Water year in USGS reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 2002, is called the "2002 water year."

Watershed (See "Drainage basin")

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

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

Wet mass is the mass of living matter plus contained water. (See also "Biomass" and "Dry mass")

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also "Dry weight")

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

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and often are large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers. (See also "Plankton")

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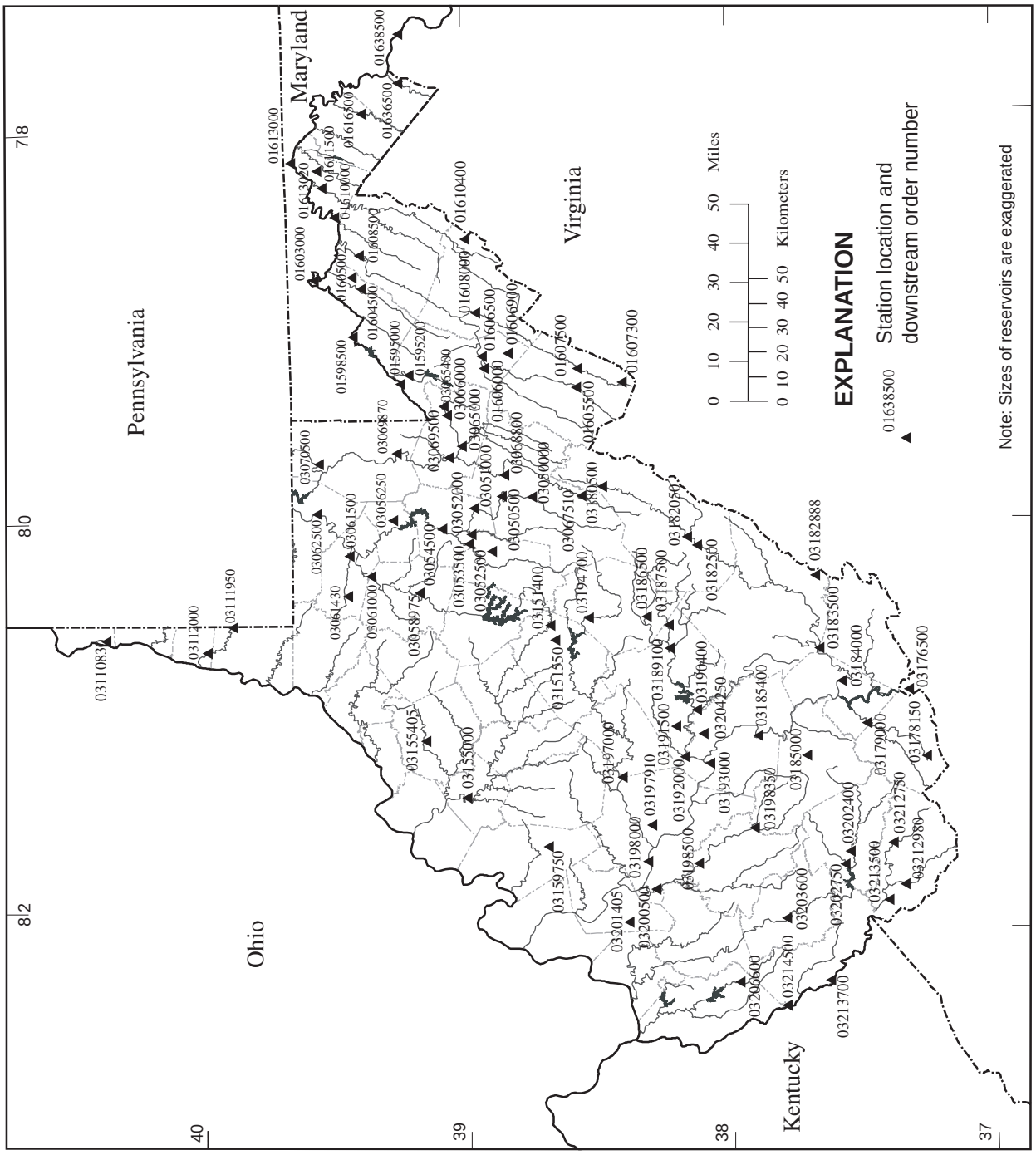


Figure 4.-- Map of West Virginia showing location of streamflow, detention reservoir, and water-quality stations.

SURFACE-WATER-DISCHARGE AND SURFACE-WATER-QUALITY RECORDS

Remark Codes

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

PRINTED OUTPUT	REMARK
E	Value is estimated.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
M	Presence of material verified, but not quantified.
N	Presumptive evidence of presence of material.
U	Material specifically analyzed for, but not detected.
A	Value is an average.
V	Analyte was detected in both the environmental sample and the associated blanks.
S	Most probable value.

Dissolved Trace-Element Concentrations

NOTE.--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (g/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the g/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994.

Water-Quality Control Data

NOTE.--See information related to quality-control data beginning on page 24.

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD

LOCATION.--Lat 39°18'06.8", long 79°18'24.8", Garrett County, Hydrologic Unit 02070002, on left bank 0.3 mi southeast of Steyer, 0.4 mi downstream from Steyer Run, 2.0 mi northeast of Gorman, and at mile 81.8.

DRAINAGE AREA.--73.1 mi^2.

PERIOD OF RECORD.--July 1956 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 2,276.01 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges (ice effect), which are poor. U.S. Geological Survey satellite collection platform at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1954, reached a stage of 13.0 ft, from floodmarks; discharge, 11,300 ft^3/s, from rating curve extended above 3,000 ft^3/s on basis of slope-area measurement at gage height of 10.30 ft.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	0930	*3,180	*7.21	Jun 11	2200	2,310	6.27
Feb 6	1815	2,290	6.24				

Minimum discharge, 22 ft^3/s, Sept. 4, 5.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	225	132	e200	254	e58	207	244	132	158	71	112	49
2	199	124	e180	489	e56	709	288	136	125	70	73	42
3	163	115	e170	676	e54	725	323	164	140	64	64	36
4	203	107	e160	502	e80	1,470	410	126	115	154	61	27
5	198	151	e150	603	e110	827	304	118	124	172	85	26
6	164	248	e140	480	1,440	1,490	287	109	116	91	70	28
7	141	239	e135	344	1,210	830	416	105	98	81	61	33
8	133	190	130	315	511	594	501	111	88	76	57	247
9	124	175	125	262	336	420	407	101	82	68	53	293
10	118	164	147	e210	e250	339	307	94	79	65	50	152
11	104	157	524	e180	e190	292	256	91	497	63	49	102
12	99	1,830	285	e150	e160	277	342	111	843	71	79	86
13	101	795	226	e140	e140	226	583	135	301	98	102	73
14	107	440	211	e130	e130	214	566	98	204	81	65	60
15	254	319	186	e120	e120	218	390	90	160	76	54	49
16	166	266	179	e110	e110	243	303	82	182	64	53	44
17	142	230	e170	e105	e100	271	253	77	261	60	43	50
18	162	197	e160	e100	e100	256	215	74	375	60	46	216
19	135	836	e150	e96	124	437	183	263	248	76	60	98
20	125	648	e150	e92	150	403	152	150	190	59	51	73
21	118	381	142	e88	427	871	130	138	149	54	81	67
22	103	302	142	e84	261	461	125	444	138	52	78	53
23	105	265	268	e80	218	340	133	194	137	52	58	51
24	110	248	636	e76	208	289	128	144	110	49	52	52
25	105	232	431	e72	187	256	143	120	102	45	51	59
26	99	196	313	e70	167	217	412	129	116	70	55	59
27	139	168	268	e68	154	197	294	134	97	198	52	59
28	160	219	241	e66	149	189	215	385	85	102	46	117
29	156	270	227	e64	165	160	175	219	85	74	46	123
30	159	226	342	e62	---	154	152	150	76	65	54	83
31	137	---	286	e60	---	163	---	147	---	85	60	---
TOTAL	4,454	9,870	7,074	6,148	7,365	13,745	8,637	4,571	5,481	2,466	1,921	2,507
MEAN	144	329	228	198	254	443	288	147	183	79.5	62.0	83.6
MAX	254	1,830	636	676	1,440	1,490	583	444	843	198	112	293
MIN	99	107	125	60	54	154	125	74	76	45	43	26
CFSM	1.97	4.50	3.12	2.71	3.47	6.07	3.94	2.02	2.50	1.09	0.85	1.14
IN.	2.27	5.02	3.60	3.13	3.75	6.99	4.40	2.33	2.79	1.25	0.98	1.28

e Estimated

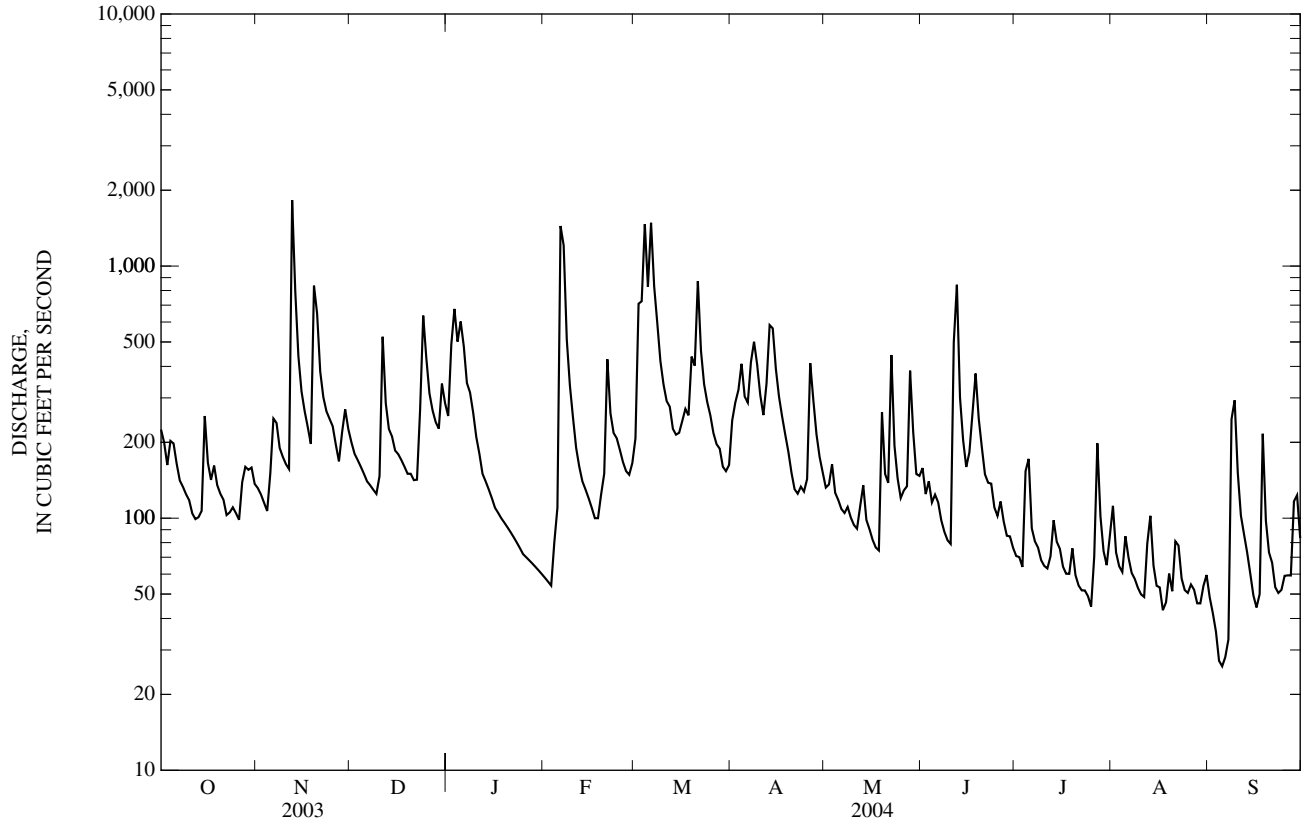
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2004, BY WATER YEAR (WY)

MEAN	72.2	139	219	230	263	344	277	200	123	102	80.3	64.6
MAX	316	588	527	569	604	885	573	540	442	340	355	492
(WY)	(1977)	(1986)	(1973)	(1974)	(1994)	(1963)	(1958)	(1996)	(1981)	(1978)	(1996)	(2003)
MIN	12.8	22.2	46.1	41.8	65.9	112	78.2	62.5	15.5	14.3	6.72	5.99
(WY)	(1964)	(2002)	(1999)	(1977)	(1993)	(1990)	(1995)	(1965)	(1965)	(1965)	(1965)	(1959)

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1956 - 2004	
ANNUAL TOTAL	101,247		74,239			
ANNUAL MEAN	277		203		175	
HIGHEST ANNUAL MEAN					297	1996
LOWEST ANNUAL MEAN					115	1959
HIGHEST DAILY MEAN	3,180	Sep 19	1,830	Nov 12	4,530	Feb 9, 1994
LOWEST DAILY MEAN	55	Jul 27	26	Sep 5	3.1	Sep 9, 1965
ANNUAL SEVEN-DAY MINIMUM	60	Aug 2	34	Sep 1	3.6	Sep 23, 1959
MAXIMUM PEAK FLOW			3,180	Nov 12	(a)11,500	Nov 5, 1985
MAXIMUM PEAK STAGE			7.21	Nov 12	13.14	Nov 5, 1985
INSTANTANEOUS LOW FLOW			22	(b)	2.7	Aug 18, 1999
ANNUAL RUNOFF (CFSM)	3.79		2.77		2.40	
ANNUAL RUNOFF (INCHES)	51.52		37.78		32.59	
10 PERCENT EXCEEDS	574		411		386	
50 PERCENT EXCEEDS	189		140		106	
90 PERCENT EXCEEDS	95		58		22	

a From rating curve extended above 3,000 ft^3/s on basis of slope-area measurement at gage height of 10.30 ft.
b Sept. 4, 5.



DAILY MEAN DISCHARGE - 2004 WATER YEAR

01595200 STONY RIVER NEAR MOUNT STORM, WV

LOCATION.--Lat 39°16'10", long 79°15'45", NAD 27, Grant County, 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 mi^2.

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--Water-discharge records good except those for period of estimated daily discharge (ice effect), which are poor. 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.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 1,850 ft^3/s, Sept. 8, gage height, 6.88 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	28	99	69	e17	105	132	37	109	15	74	12
2	84	21	33	87	e16	307	149	42	90	13	48	9.3
3	69	30	29	215	e16	450	200	152	81	28	36	8.7
4	39	52	39	343	e15	950	234	207	50	99	26	7.8
5	56	58	49	349	e15	744	199	157	26	96	29	6.7
6	49	103	63	254	316	921	130	144	23	71	22	6.8
7	36	121	71	174	390	654	112	37	20	59	21	7.7
8	35	114	65	143	394	426	226	179	18	47	19	502
9	29	96	63	128	206	347	343	129	17	32	17	775
10	29	67	105	87	93	308	278	25	17	19	15	351
11	35	33	349	40	95	209	217	21	178	21	83	271
12	35	628	267	43	84	118	317	20	356	27	40	198
13	35	468	198	55	90	91	682	76	284	33	23	105
14	28	337	162	63	85	127	577	163	207	39	16	77
15	111	255	130	72	79	99	292	131	84	34	14	66
16	140	156	113	77	89	120	170	102	60	22	14	173
17	101	136	111	62	82	98	164	69	73	15	13	330
18	114	119	112	74	63	96	147	19	79	16	13	694
19	92	575	104	91	53	172	255	128	35	14	16	300
20	53	597	103	39	37	250	192	192	52	12	13	141
21	33	411	98	e33	125	843	165	164	44	13	13	221
22	29	218	83	e30	139	261	98	246	25	15	12	139
23	39	139	131	e27	127	220	37	145	96	21	9.4	41
24	49	135	244	e24	111	191	36	39	41	17	13	43
25	19	129	244	e22	104	176	54	34	22	18	13	40
26	19	114	200	e21	97	163	312	53	21	60	12	43
27	75	103	152	e21	82	143	326	91	17	219	11	50
28	118	99	128	e20	77	141	231	277	18	110	8.6	238
29	83	144	97	e19	83	132	127	286	17	25	7.6	379
30	52	122	75	e18	---	115	41	201	15	54	8.1	186
31	45	---	68	e18	---	113	---	130	---	83	12	---
TOTAL	1,828	5,608	3,785	2,718	3,180	9,090	6,443	3,696	2,175	1,347	671.7	5,422.0
MEAN	59.0	187	122	87.7	110	293	215	119	72.5	43.5	21.7	181
MAX	140	628	349	349	394	950	682	286	356	219	83	775
MIN	19	21	29	18	15	91	36	19	15	12	7.6	6.7

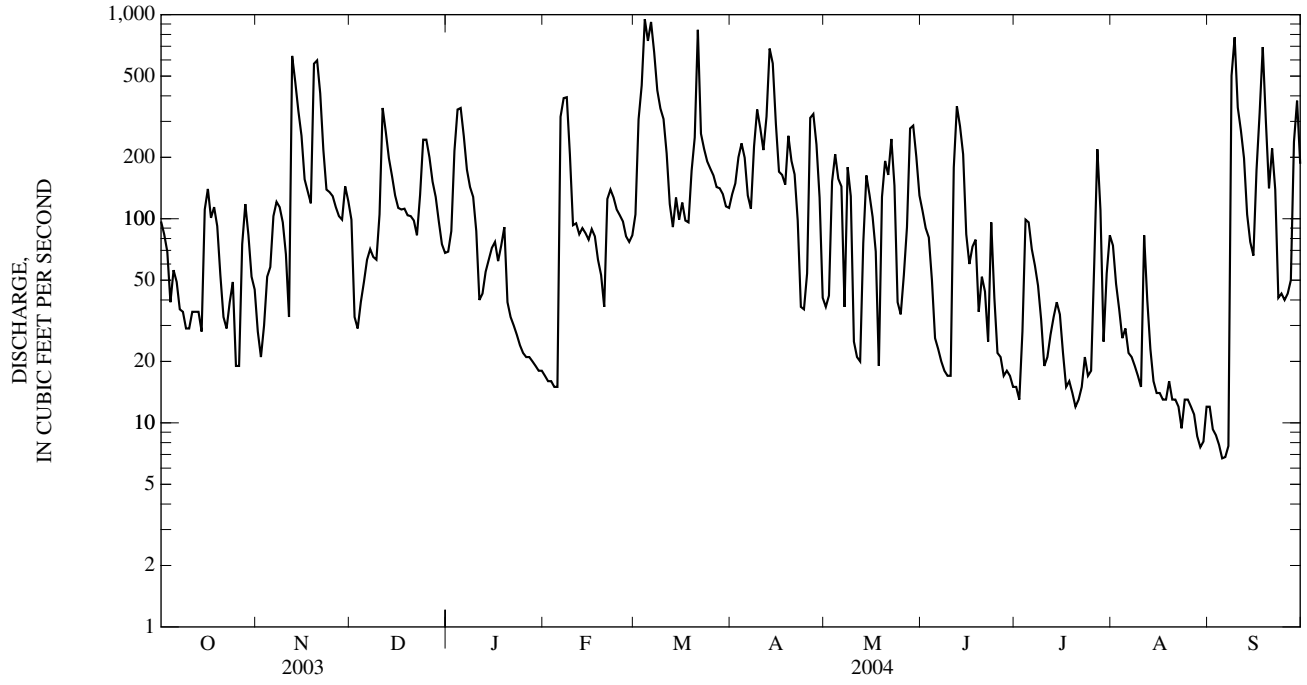
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2004, BY WATER YEAR (WY)

MEAN	45.2	86.2	105	112	141	221	160	122	70.3	48.0	35.7	43.6
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)

01595200 STONY RIVER NEAR MOUNT STORM, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1962 - 2004	
ANNUAL TOTAL	57,771		45,963.7			
ANNUAL MEAN	158		126		99.0	
HIGHEST ANNUAL MEAN					166	1996
LOWEST ANNUAL MEAN					42.0	1964
HIGHEST DAILY MEAN	2,190	Sep 19	950	Mar 4	9,880	Nov 5, 1985
LOWEST DAILY MEAN	(e)10	(a)	6.7	Sep 5	1.3	Aug 28, 1988
ANNUAL SEVEN-DAY MINIMUM	11	Jan 23	8.4	Sep 1	1.7	Aug 28, 1988
MAXIMUM PEAK FLOW			1,850	Sep 8	(b)14,000	Nov 5, 1985
MAXIMUM PEAK STAGE			6.88	Sep 8	(c)16.41	Nov 5, 1985
INSTANTANEOUS LOW FLOW			6.0	Sep 6	1.3	Aug 28, 1988
10 PERCENT EXCEEDS	395		294		233	(d)
50 PERCENT EXCEEDS	105		83		48	
90 PERCENT EXCEEDS	21		16		8.4	

a Jan. 27, 28.
b From rating curve extended above 7,500 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks.
d Aug. 22, 23, 28, 29, 1988.
e Estimated.



01595200 STONY RIVER NEAR MOUNT STORM, WV—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: December 1961 to March 1974, September 1974 to September 1995, October 1996 to current year.

INSTRUMENTATION.--Temperature recorder (continuous ethyl alcohol-actuated thermograph) December 1961 to October 2001. Satellite telemetry installed Oct. 22, 2001.

REMARKS.--Upstream reservoir regulation defined on the discharge manuscript.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 31.3°C, Aug. 3, 2002; minimum, -0.5°C, Jan. 16-20, 1999.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 28.2°C, Sept. 16; minimum, 0.9°C, Dec. 3, Jan. 17.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.9	15.2	8.0	5.5	1.1	9.1	10.8	18.5	21.4	21.9	21.7	22.5
2	13.7	15.7	4.7	6.0	1.1	7.0	9.6	17.7	21.0	22.8	22.4	21.1
3	13.8	14.9	2.5	11.1	1.1	12.1	10.8	17.1	19.9	22.6	23.0	21.9
4	12.1	15.1	3.1	12.8	2.5	12.2	9.4	18.8	18.2	22.0	23.9	21.6
5	12.5	16.1	3.6	12.8	3.1	14.9	10.7	18.4	15.4	22.8	20.9	21.0
6	14.6	16.6	4.2	9.6	4.2	13.2	10.5	20.7	17.2	24.7	18.6	19.4
7	13.8	16.5	4.4	5.4	5.7	14.3	11.3	20.6	20.1	23.8	19.0	21.3
8	15.1	13.0	5.5	5.4	7.2	11.3	13.5	21.4	20.9	23.1	19.3	24.9
9	15.1	11.4	7.1	6.3	7.0	12.1	14.7	22.4	23.4	21.9	21.4	27.6
10	16.0	10.7	7.2	4.4	4.9	12.4	15.7	22.3	20.5	21.3	22.5	27.3
11	16.1	10.7	7.4	1.3	4.6	11.8	13.3	19.4	18.6	22.5	26.3	27.9
12	16.5	16.0	8.0	3.2	5.8	9.3	11.7	19.9	22.2	22.6	24.9	27.0
13	16.1	15.9	7.7	3.2	5.1	7.3	13.3	20.6	24.8	23.4	18.5	25.2
14	16.2	12.4	6.7	3.9	4.6	11.2	13.4	23.3	25.1	23.4	18.3	22.8
15	13.7	13.2	6.3	3.8	4.9	10.7	13.8	23.0	23.6	20.6	18.8	23.3
16	16.4	13.2	7.1	1.5	4.4	7.9	15.8	22.3	21.4	21.2	20.7	28.2
17	15.0	13.6	6.7	4.2	5.2	7.8	17.2	21.7	23.3	19.0	20.8	27.4
18	14.8	12.9	4.6	4.5	4.7	9.1	18.8	21.6	23.1	20.6	21.0	26.1
19	14.9	13.9	5.1	3.0	5.6	9.4	18.0	19.7	20.9	21.8	22.6	25.4
20	14.2	14.4	5.0	1.7	6.0	12.0	19.0	23.8	19.8	22.2	23.8	23.0
21	14.8	15.0	4.6	1.1	4.0	12.3	19.4	23.2	20.8	23.5	20.8	26.3
22	12.9	14.2	6.0	1.1	6.0	11.8	17.3	23.3	20.8	20.8	22.1	24.7
23	8.3	13.5	6.7	1.1	7.7	11.2	16.5	23.9	23.9	22.5	22.3	20.4
24	10.2	13.4	6.8	1.0	7.1	11.7	18.7	22.8	24.1	22.2	22.6	21.2
25	11.0	9.9	6.4	1.0	7.1	14.0	17.2	21.4	21.3	23.1	23.0	21.0
26	12.5	10.4	6.2	1.0	6.6	16.2	15.4	19.5	21.5	21.1	23.4	20.2
27	12.0	11.4	6.5	1.1	7.4	14.4	16.2	21.6	21.3	24.2	24.1	20.2
28	13.3	12.4	7.0	1.0	7.7	15.4	17.0	22.5	19.7	25.7	24.7	23.4
29	13.2	7.8	7.7	1.1	8.0	16.1	18.8	24.4	21.0	23.8	24.3	25.7
30	11.8	8.1	5.4	1.1	---	13.1	18.9	23.9	21.6	22.6	24.7	24.8
31	14.3	---	3.7	1.0	---	11.2	---	22.2	---	20.2	23.5	---
MEAN	13.9	13.2	5.9	3.9	5.2	11.7	14.9	21.4	21.2	22.4	22.1	23.8
MAX	16.9	16.6	8.0	12.8	8.0	16.2	19.4	24.4	25.1	25.7	26.3	28.2
MIN	8.3	7.8	2.5	1.0	1.1	7.0	9.4	17.1	15.4	19.0	18.3	19.4

01595200 STONY RIVER NEAR MOUNT STORM, WV—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MINIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.6	11.1	4.7	3.5	1.0	5.6	4.6	14.2	18.7	15.8	18.1	17.1
2	12.0	11.8	1.5	4.5	1.0	4.9	3.7	13.4	17.6	16.7	18.7	16.4
3	10.7	11.4	0.9	5.8	1.0	6.1	8.9	11.5	17.6	17.5	19.0	16.2
4	10.1	11.5	1.5	11.1	1.1	8.4	7.5	14.8	15.4	18.1	19.4	17.4
5	9.7	13.2	2.5	9.6	1.0	12.2	6.9	15.0	14.0	18.6	18.4	16.6
6	11.6	15.2	2.8	5.4	1.2	12.1	6.8	15.5	13.6	20.7	15.4	17.6
7	10.1	13.0	3.5	3.9	3.0	11.3	5.7	15.1	13.6	21.4	14.4	17.6
8	11.3	11.4	2.9	3.8	5.6	9.2	6.5	15.1	14.7	20.2	14.5	18.1
9	12.2	9.4	5.2	4.4	3.5	9.4	12.6	18.5	16.9	19.7	15.0	24.9
10	13.5	8.0	4.6	1.1	3.1	9.9	12.6	15.6	18.6	18.1	16.6	24.1
11	14.5	7.4	4.8	1.0	2.5	8.8	11.7	16.4	15.1	18.5	18.3	23.7
12	13.5	10.7	7.3	1.3	2.9	4.6	8.7	16.1	14.9	19.3	18.5	22.6
13	13.5	11.9	6.7	2.2	3.2	3.0	11.5	15.0	22.1	19.7	17.1	21.3
14	13.5	11.2	4.5	1.8	2.5	5.6	12.3	20.0	22.9	20.0	15.2	20.7
15	11.5	11.2	4.8	1.5	2.7	7.1	10.0	20.5	21.2	18.7	14.1	20.9
16	13.2	12.4	4.5	1.0	1.4	3.5	8.6	19.6	20.0	17.4	16.5	19.7
17	13.2	11.8	4.1	0.9	2.9	5.0	11.4	18.4	19.3	16.0	15.7	24.9
18	12.2	11.3	3.6	2.6	2.4	5.0	12.9	17.8	20.5	16.7	15.6	23.6
19	13.0	11.9	4.3	1.7	2.6	6.4	14.8	16.1	16.8	16.8	18.0	18.5
20	11.2	13.7	3.5	1.0	2.6	7.4	14.9	19.7	14.4	16.7	19.2	16.7
21	12.2	13.8	3.2	1.0	2.1	8.1	14.9	18.8	15.2	16.9	17.9	21.2
22	8.3	11.4	4.3	1.0	2.4	4.9	15.1	17.8	17.7	18.0	16.2	20.4
23	7.2	10.8	5.2	1.0	4.2	7.3	13.9	20.2	17.8	18.3	15.4	16.7
24	6.7	9.2	5.5	1.0	5.9	8.2	13.0	19.0	19.2	18.5	16.2	17.6
25	6.7	8.1	5.3	1.0	4.7	10.4	12.8	17.4	18.4	17.0	17.1	18.1
26	9.8	8.8	5.0	1.0	4.4	11.7	14.4	17.6	17.6	19.0	18.0	18.9
27	10.0	9.3	4.7	1.0	4.6	12.9	12.9	18.0	15.1	19.0	18.4	19.0
28	9.6	7.8	4.8	1.0	3.7	12.4	11.7	18.9	15.0	21.7	19.2	18.4
29	9.8	6.6	5.4	1.0	4.5	12.1	13.0	21.0	15.0	18.2	20.0	23.4
30	8.4	6.8	2.7	1.0	---	10.8	12.6	21.0	14.8	19.7	20.4	19.0
31	10.4	---	2.0	1.0	---	10.6	---	20.3	---	18.9	19.6	---
MEAN	11.0	10.7	4.1	2.6	2.9	8.2	10.9	17.4	17.1	18.4	17.3	19.7
MAX	14.5	15.2	7.3	11.1	5.9	12.9	15.1	21.0	22.9	21.7	20.4	24.9
MIN	6.7	6.6	0.9	0.9	1.0	3.0	3.7	11.5	13.6	15.8	14.1	16.2

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD

LOCATION.--Lat 39°28'45.1", long 79°03'54.0", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank 0.2 mi downstream from Savage River, 0.5 mi northwest of Luke, and at mile 53.3.

DRAINAGE AREA.--406 mi^2.

PERIOD OF RECORD.--June 1899 to July 1906 (published as "at Piedmont, W. Va."), October 1949 to current year.

REVISED RECORDS.--WSP 192: 1899-1904. WSP 1432: 1905-6, drainage area at former site. WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 944.22 ft above National Geodetic Vertical Datum of 1929. June 27, 1899, to July 15, 1906, nonrecording gage at bridge 1.1 mi downstream at datum about 35 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated prior to July 1981 by Stony River Reservoir 45 mi upstream from station, since December 1950 by Savage River Reservoir, 5 mi upstream from station (see station 01597500), and since July 1981 by Jennings Randolph Lake, 9 mi upstream from station. Some regulation at low flow by West Virginia Pulp and Paper Company at site used 1899-1906. U.S. Army Corps of Engineers satellite collection platform at station. Upper Potomac River Commission gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,360 ft^3/s, Mar. 7, gage height, 7.95 ft; minimum discharge, 211 ft^3/s, Jan. 22.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	576	416	985	1,330	381	842	939	780	566	342	343	322
2	518	416	977	1,330	379	1,040	1,120	735	559	340	319	319
3	501	416	925	1,350	383	1,240	1,570	781	540	337	304	319
4	853	416	845	1,380	379	2,880	2,620	790	491	352	309	319
5	1,080	421	844	1,920	381	4,600	2,170	795	491	345	330	319
6	711	468	843	2,380	511	5,040	1,580	745	454	339	330	319
7	403	508	837	2,350	936	5,060	1,530	652	412	340	328	318
8	400	503	798	2,170	1,540	3,370	1,890	823	388	339	326	1,120
9	394	501	763	1,830	1,800	2,950	1,890	853	364	336	305	1,060
10	391	555	785	1,690	1,860	2,900	1,460	609	361	334	283	1,160
11	782	664	1,270	1,590	1,900	2,470	1,370	517	413	335	283	1,770
12	935	1,880	1,420	1,520	1,950	1,510	1,750	490	2,310	338	298	2,030
13	414	2,680	1,380	1,050	1,970	1,170	3,550	484	1,950	340	295	1,080
14	426	2,530	1,420	660	1,950	1,040	4,990	480	1,270	337	875	483
15	435	2,450	1,440	654	1,930	1,030	2,710	477	695	347	882	557
16	422	2,420	1,420	637	1,910	1,040	1,980	476	603	334	283	557
17	423	2,220	1,410	637	1,220	1,030	1,480	454	655	334	280	582
18	426	2,090	1,350	643	633	1,040	1,370	416	712	338	279	640
19	422	2,610	1,160	637	635	1,140	1,230	455	692	336	289	822
20	419	3,170	1,020	630	662	1,150	1,000	563	688	334	280	796
21	416	2,520	1,010	502	728	2,470	962	698	558	334	283	471
22	418	2,470	940	359	708	3,130	934	1,590	439	346	282	487
23	418	2,430	927	380	752	2,420	761	1,620	438	326	300	504
24	416	2,400	1,340	383	796	1,980	831	1,050	433	326	323	570
25	414	2,070	1,490	387	793	1,610	836	796	418	326	321	612
26	412	1,730	1,610	395	744	1,460	1,220	607	370	336	319	612
27	419	1,710	1,740	389	798	1,280	1,730	606	366	344	319	612
28	419	1,410	1,710	385	797	1,060	1,210	691	364	332	319	646
29	416	1,180	1,490	383	811	1,020	1,090	1,090	351	344	332	634
30	416	1,070	1,350	383	---	983	850	839	341	377	338	557
31	416	---	1,340	382	---	985	---	578	---	352	324	---
TOTAL	15,511	46,324	36,839	30,716	30,237	60,940	48,623	22,540	18,692	10,520	10,681	20,597
MEAN	500	1,544	1,188	991	1,043	1,966	1,621	727	623	339	345	687
MAX	1,080	3,170	1,740	2,380	1,970	5,060	4,990	1,620	2,310	377	882	2,030
MIN	391	416	763	359	379	842	761	416	341	326	279	318
CFSM	1.23	3.80	2.93	2.44	2.57	4.84	3.99	1.79	1.53	0.84	0.85	1.69
IN.	1.42	4.24	3.38	2.81	2.77	5.58	4.46	2.07	1.71	0.96	0.98	1.89

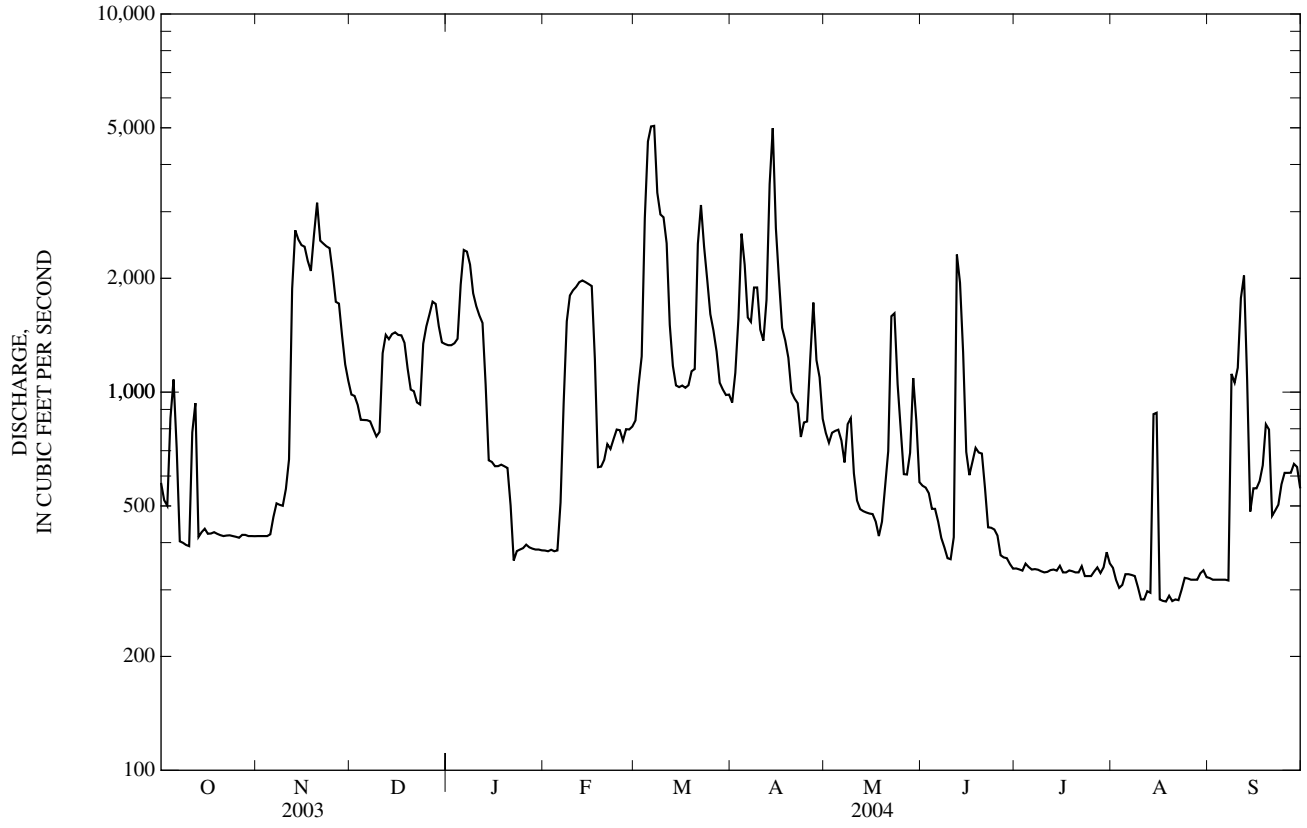
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1906, 1950 - 2004, BY WATER YEAR (WY)

MEAN	333	472	803	893	1,073	1,542	1,214	913	556	358	327	327
MAX	1,423	2,806	2,536	2,368	2,487	3,414	3,098	2,484	1,918	1,294	1,525	2,404
(WY)	(1955)	(1986)	(1973)	(1996)	(1994)	(1963)	(1993)	(1996)	(2003)	(1990)	(1996)	(2003)
MIN	27.6	33.5	123	166	99.8	467	278	165	108	91.4	37.0	17.1
(WY)	(1905)	(1905)	(1999)	(1977)	(1905)	(1988)	(1995)	(1982)	(1969)	(1953)	(1904)	(1904)

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1899 - 1906, 1950 - 2004	
ANNUAL TOTAL	483,645		352,220			
ANNUAL MEAN	1,325		962		735	
ANNUAL MEAN‡	1,344		966		736	
HIGHEST ANNUAL MEAN					1,342	1996
LOWEST ANNUAL MEAN					412	1969
HIGHEST DAILY MEAN	8,000	May 11	5,060	Mar 7	18,400	Aug 18, 1955
LOWEST DAILY MEAN	276	Aug 24	279	Aug 18	6.0	Sep 4, 1904
ANNUAL SEVEN-DAY MINIMUM	301	Aug 21	282	Aug 16	11	Aug 29, 1904
MAXIMUM PEAK FLOW			6,360	Mar 7	(a)39,400	Oct 15, 1954
MAXIMUM PEAK STAGE			7.95	Mar 7	17.15	Oct 15, 1954
INSTANTANEOUS LOW FLOW			211	Jan 22	6.0	Sep 4, 1904
ANNUAL RUNOFF (CFSM)	3.26		2.37		1.81	
ANNUAL RUNOFF (CFSM)‡	3.31		2.38		1.81	
ANNUAL RUNOFF (INCHES)	44.31		32.27		24.59	
ANNUAL RUNOFF (INCHES)‡	44.96		32.31		24.62	
10 PERCENT EXCEEDS	2,990		1,970		1,660	
50 PERCENT EXCEEDS	849		663		416	
90 PERCENT EXCEEDS	368		331		116	

‡ Adjusted for change in reservoir contents since October 1949.
a From rating curve extended above 25,000 ft^3/s on basis of slope-area measurement of peak flow.



DAILY MEAN DISCHARGE - 2004 WATER YEAR

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD

LOCATION.--Lat 39°37'18.5", long 78°46'24.3", Allegany County, Hydrologic Unit 02070002, on left bank at downstream side of Wiley Ford Bridge, 2.0 mi south of Cumberland, 2.1 mi downstream from Wills Creek, and at mile 19.6.

DRAINAGE AREA.--877 mi^2.

PERIOD OF RECORD.--May 1929 to current year. Gage-height records collected at various sites about 2.0 mi upstream from September 1901 to December 1932 and thereafter at present site, are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 726: Drainage area. WSP 781: 1932(M). WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 585.22 ft above National Geodetic Vertical Datum of 1929. Prior to June 18, 1929, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are poor. Prior to July 1981 some regulation at low flow by Stony River Reservoir, 79 mi upstream from station. Low-flow regulation since December 1950 by Savage River Reservoir, 39 mi upstream from station (see station 01597500). Flow regulated by Jennings Randolph Lake, 43 mi upstream from station since July 1981. Prior to July 1957, small amount of inflow from industrial wastes and sewage from city of Cumberland from water diverted from Evitts Creek, mouth of which is downstream from station. Diversion to Chesapeake and Ohio Canal prior to 1935. National Weather Service gage height telemeter at station. U.S. Army Corps of Engineers satellite collection platform at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.2 ft, June 1, 1889, discharge, about 89,000 ft^3/s. Flood of Mar. 29, 1924, reached a stage of 28.4 ft, discharge, about 82,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,600 ft^3/s, Sept. 9, gage height, 15.54 ft; minimum discharge, 396 ft^3/s, Aug. 12, 18, 19.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,680	991	1,800	2,220	e720	2,220	2,200	1,690	799	471	1,140	455
2	1,430	966	1,730	2,220	e715	3,580	4,950	1,580	736	463	727	432
3	1,280	941	1,680	2,350	e720	5,750	4,880	1,750	729	455	585	425
4	1,260	914	1,510	2,640	e710	6,050	4,970	1,580	667	481	522	416
5	1,680	933	1,520	3,450	e710	8,270	4,290	1,520	650	511	509	410
6	1,550	1,060	1,540	4,330	e2,500	9,210	3,090	1,450	647	469	495	402
7	942	1,220	1,470	3,770	2,820	8,710	2,710	1,360	584	461	475	405
8	873	1,200	1,400	3,430	2,870	6,240	2,710	1,390	544	466	458	3,050
9	826	1,170	1,320	2,870	2,790	4,840	3,020	1,350	526	447	448	10,800
10	795	1,130	1,340	2,580	2,780	4,360	2,380	1,260	519	437	416	3,480
11	833	1,210	5,780	2,300	2,800	4,000	2,180	1,000	623	435	402	2,750
12	1,400	3,520	4,470	e2,200	2,760	2,880	2,790	889	2,310	488	436	2,720
13	984	4,810	3,300	2,130	2,770	2,270	7,190	939	2,270	500	581	2,260
14	850	4,100	2,940	1,380	2,720	1,990	10,200	878	2,030	471	509	873
15	1,280	3,590	2,720	1,330	2,640	1,900	5,540	837	1,070	449	1,390	947
16	1,030	3,360	2,490	1,130	2,500	1,880	4,070	800	872	448	525	889
17	961	3,140	2,430	1,080	2,330	1,850	2,970	754	772	431	423	1,620
18	1,000	2,800	2,350	1,200	1,280	1,830	2,590	764	951	442	404	8,290
19	958	7,370	2,150	1,180	1,310	2,740	2,330	1,810	871	455	405	3,290
20	924	9,510	1,850	1,080	1,700	2,570	2,000	1,520	836	448	408	2,370
21	902	5,340	1,740	971	2,520	4,600	1,840	1,460	805	431	414	1,560
22	903	4,280	1,740	802	2,610	5,570	1,740	2,110	605	438	447	1,160
23	905	3,780	2,120	682	2,180	4,020	1,670	2,470	588	474	413	1,010
24	869	3,510	3,840	706	2,190	3,420	1,390	1,720	573	431	421	901
25	826	3,280	4,550	730	2,070	2,730	1,490	1,450	627	423	425	961
26	807	2,620	3,560	739	1,950	2,480	2,270	1,200	650	444	422	883
27	975	2,490	3,250	e740	1,830	2,240	3,310	1,060	531	684	416	848
28	1,210	2,390	2,950	e735	1,860	1,950	2,510	975	504	605	416	1,200
29	1,160	2,130	2,710	e730	2,000	1,790	2,220	1,190	497	499	451	1,430
30	1,120	1,980	2,430	e725	---	1,690	1,860	1,340	483	999	636	1,060
31	1,040	---	2,310	e720	---	1,720	---	814	---	1,840	507	---
TOTAL	33,253	85,735	76,990	53,150	59,355	115,350	97,360	40,910	24,869	16,496	16,226	57,297
MEAN	1,073	2,858	2,484	1,715	2,047	3,721	3,245	1,320	829	532	523	1,910
MAX	1,680	9,510	5,780	4,330	2,870	9,210	10,200	2,470	2,310	1,840	1,390	10,800
MIN	795	914	1,320	682	710	1,690	1,390	754	483	423	402	402
CFSM	1.22	3.26	2.83	1.95	2.33	4.24	3.70	1.50	0.95	0.61	0.60	2.18
IN.	1.41	3.64	3.27	2.25	2.52	4.89	4.13	1.74	1.05	0.70	0.69	2.43

e Estimated

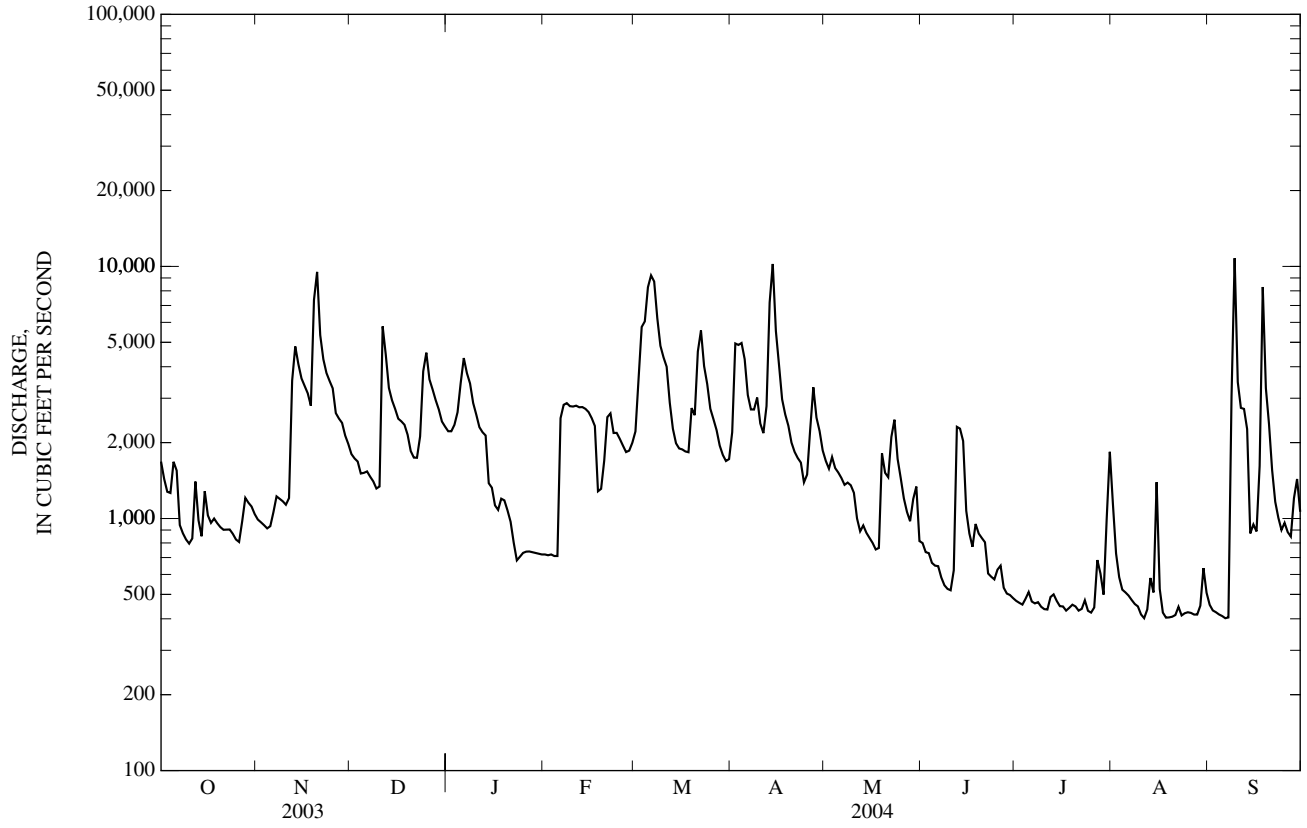
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2004, BY WATER YEAR (WY)

MEAN	594	810	1,294	1,554	1,979	2,901	2,370	1,748	942	541	470	499
MAX	3,791	5,350	4,652	5,115	4,410	8,763	5,866	4,070	3,613	2,270	2,152	4,117
(WY)	(1943)	(1986)	(1973)	(1937)	(1998)	(1936)	(1993)	(1996)	(2003)	(1989)	(1996)	(1996)
MIN	28.9	44.8	134	269	393	789	705	374	209	89.7	57.7	40.3
(WY)	(1931)	(1931)	(1931)	(1940)	(1934)	(1990)	(1995)	(1934)	(1965)	(1930)	(1930)	(1932)

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1929 - 2004	
ANNUAL TOTAL	887,798		676,991			
ANNUAL MEAN	2,432		1,850		1,306	
HIGHEST ANNUAL MEAN					2,390	1996
LOWEST ANNUAL MEAN					632	1969
HIGHEST DAILY MEAN	12,200	May 11	10,800	Sep 9	47,400	Mar 18, 1936
LOWEST DAILY MEAN	387	Aug 25	402	(a)	13	(b)
ANNUAL SEVEN-DAY MINIMUM	441	Aug 20	416	Aug 18	16	Sep 20, 1932
MAXIMUM PEAK FLOW			19,600	Sep 9	(c)88,200	Mar 17, 1936
MAXIMUM PEAK STAGE			15.54	Sep 9	29.10	Mar 17, 1936
INSTANTANEOUS LOW FLOW			396	(d)	12	Sep 22, 1932
ANNUAL RUNOFF (CFSM)	2.77		2.11		1.49	
ANNUAL RUNOFF (CFSM)‡	2.80		2.11		1.23	
ANNUAL RUNOFF (INCHES)	37.66		28.72		20.24	
ANNUAL RUNOFF (INCHES)‡	37.96		28.70		20.23	
10 PERCENT EXCEEDS	5,510		3,580		3,030	
50 PERCENT EXCEEDS	1,670		1,340		689	
90 PERCENT EXCEEDS	589		454		180	

‡ Adjusted for change in reservoir contents since October 1949.
a Aug. 11, Sept. 6.
b Sept. 21-24, 1932.
c From rating curve extended above 33,000 ft^3/s on basis of slope-area measurement of peak flow.
d Aug. 12, 18, 19.



DAILY MEAN DISCHARGE - 2004 WATER YEAR

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV

LOCATION.--Lat 39°26'35", long 78°49'20", NAD 27, Mineral County, 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.--211 mi^2.

PERIOD OF RECORD.--August 1938 to current year.

REVISED RECORDS.--WSP 951: 1939-40. WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 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.--Records good except those for periods of estimated daily discharges (ice effect), which are poor. The flow from 115 mi^2 upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,887 acre-ft.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 2,890 ft^3/s, Feb. 6, gage height, (a) 9.03 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	258	79	198	250	e61	435	231	321	71	34	47	15
2	211	73	171	228	e58	563	348	286	65	33	41	14
3	167	68	153	211	e55	574	420	292	59	31	36	13
4	136	64	140	205	e52	568	389	248	55	32	31	13
5	112	67	142	203	66	543	339	214	56	79	28	12
6	95	82	146	193	898	727	302	187	57	67	26	12
7	84	95	141	170	1,600	638	277	165	54	52	23	13
8	77	99	136	167	953	593	259	151	49	46	21	184
9	72	92	133	149	591	576	251	136	45	40	20	773
10	69	85	144	136	553	538	221	121	42	35	19	381
11	65	80	1,200	125	567	422	198	108	57	33	18	260
12	62	823	823	128	540	360	338	100	402	31	18	180
13	58	753	590	125	528	314	1,510	93	274	35	25	122
14	60	574	554	118	528	281	1,680	88	218	32	25	82
15	103	488	507	114	475	259	936	106	172	29	22	63
16	88	411	417	95	393	248	706	114	144	28	20	51
17	77	351	385	91	341	250	621	102	139	25	19	51
18	77	297	367	97	302	259	561	92	118	26	18	256
19	73	730	332	91	307	579	530	126	95	27	19	212
20	68	1,050	294	82	492	572	514	149	78	26	20	142
21	64	647	260	e67	875	624	439	133	66	24	32	101
22	61	566	250	e62	833	583	360	136	60	23	31	77
23	57	499	466	e58	651	553	320	131	57	23	25	62
24	55	427	634	e55	612	450	274	114	51	25	22	53
25	52	378	594	e53	591	371	278	96	47	24	20	46
26	50	329	544	e51	574	326	901	85	60	23	18	41
27	72	286	467	83	553	292	719	83	48	58	16	38
28	123	264	398	84	457	265	554	82	42	79	16	238
29	115	256	356	79	405	238	511	88	39	61	16	648
30	100	224	322	75	---	213	394	77	37	45	17	394
31	88	---	279	64	---	210	---	71	---	42	15	---
TOTAL	2,849	10,237	11,543	3,709	14,911	13,424	15,381	4,295	2,757	1,168	724	4,547
MEAN	91.9	341	372	120	514	433	513	139	91.9	37.7	23.4	152
MAX	258	1,050	1,200	250	1,600	727	1,680	321	402	79	47	773
MIN	50	64	133	51	52	210	198	71	37	23	15	12
CFSM	0.44	1.62	1.76	0.57	2.44	2.05	2.43	0.66	0.44	0.18	0.11	0.72
IN.	0.50	1.80	2.04	0.65	2.63	2.37	2.71	0.76	0.49	0.21	0.13	0.80

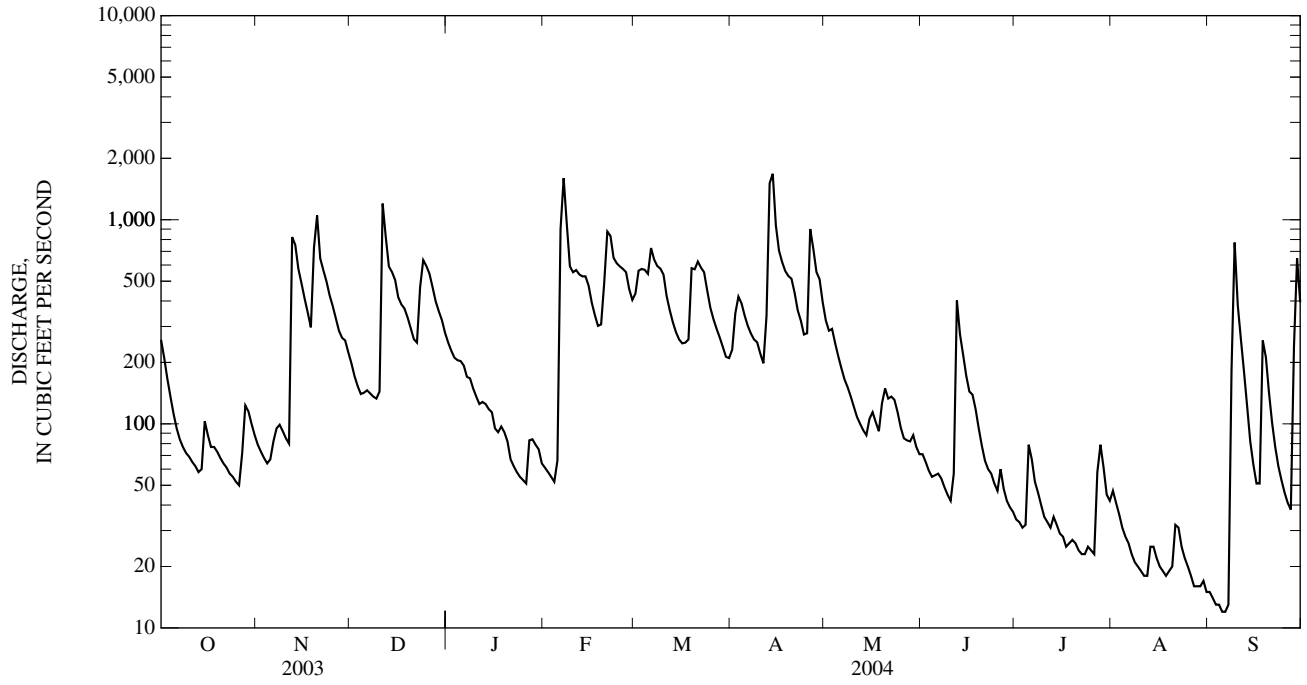
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2004, BY WATER YEAR (WY)

MEAN	71.9	88.3	164	205	305	430	318	224	110	59.8	57.8	56.4
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	58.3	54.1	21.2	8.38	3.14	5.20	2.80
(WY)	(1992)	(1992)	(1944)	(2002)	(2002)	(1990)	(1969)	(1969)	(1999)	(1999)	(1966)	(1991)

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1938 - 2004	
ANNUAL TOTAL	129,894		85,545			
ANNUAL MEAN	356		234		174	
HIGHEST ANNUAL MEAN					387	1996
LOWEST ANNUAL MEAN					35.1	1969
HIGHEST DAILY MEAN	3,860	Sep 19	1,680	Apr 14	11,100	Oct 15, 1942
LOWEST DAILY MEAN	32	Feb 17	12	(b)	0.48	Aug 23, 1999
ANNUAL SEVEN-DAY MINIMUM	45	Aug 22	13	Sep 1	0.87	Aug 17, 1999
MAXIMUM PEAK FLOW			2,890	Feb 6	(c)16,000	Aug 19, 1955
MAXIMUM PEAK STAGE			9.03	Feb 6	12.20	Aug 19, 1955
INSTANTANEOUS LOW FLOW			12	(d)	0.45	(f)
ANNUAL RUNOFF (CFSM)	1.69		1.11		0.823	
ANNUAL RUNOFF (INCHES)	22.90		15.08		11.18	
10 PERCENT EXCEEDS	793		574		450	
50 PERCENT EXCEEDS	239		124		60	
90 PERCENT EXCEEDS	61		25		10	

a From float-tape indicator.
b Sept. 5, 6.
c From rating curve extended above 4,900 ft^3/s on basis of contracted-opening measurement of peak flow.
d Sept. 5-7.
e Estimated
f Aug. 23, 24, 1999.



01605002 PAINTER RUN NEAR FORT ASHBY, WV
(Detention Reservoir)

LOCATION.--Lat 39°29'08", long 78°45'37", NAD 27, Mineral County, Hydrologic Unit 02070002.

DAM NAME.--Patterson Creek No. 4.

SURFACE AREA.--8 acres.

DRAINAGE AREA.--7.73 mi^2.

PERIOD OF RECORD.--June 2002 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 700.0 ft above NGVD 29.

REMARKS.-- Normal Pool = 20.6 ft (Normal Storage=106 acre-ft)

Top of Riser = 31.1 ft

Emergency Spillway = 38.7 ft

Top of Dam = 47.6 ft

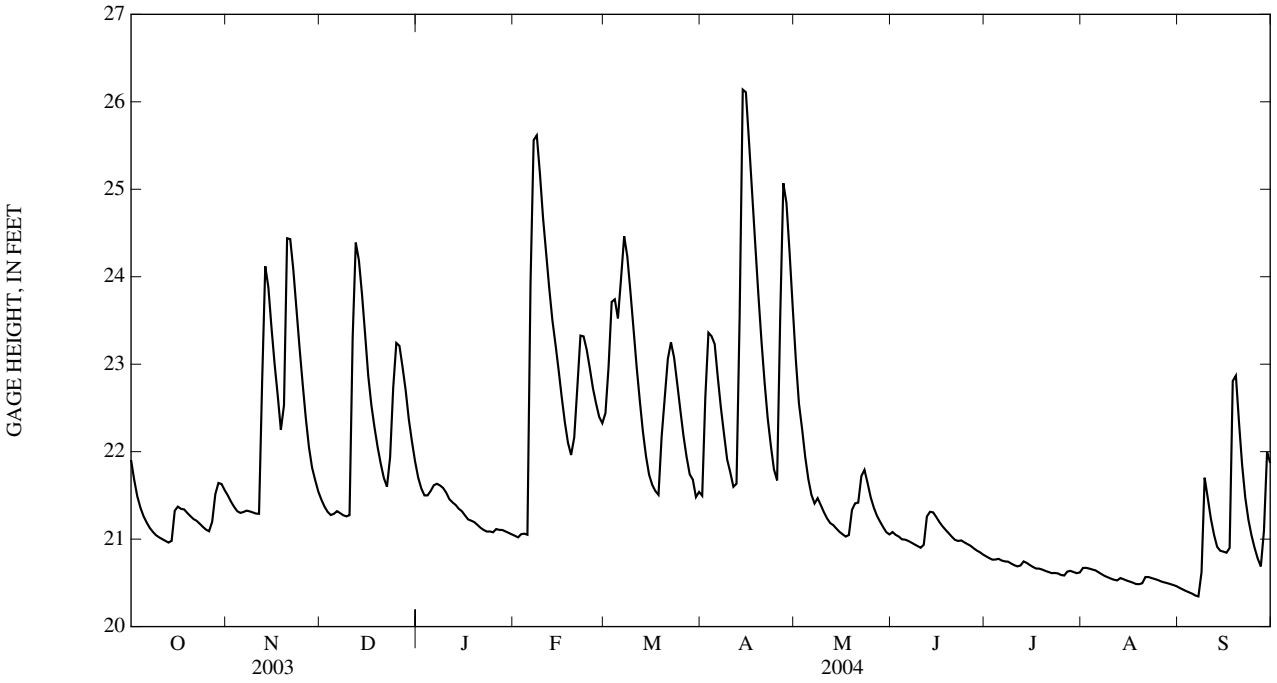
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 26.73 ft, Mar. 10, 2003; minimum gage height, 19.09 ft, Sept. 25, 26, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 26.32 ft, Apr. 14; minimum gage height, 20.34 ft, Sept. 7, 8.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.91	21.50	21.45	21.70	21.04	22.44	21.50	23.05	21.08	20.80	20.67	20.44
2	21.68	21.43	21.37	21.58	21.02	22.97	22.62	22.55	21.05	20.78	20.67	20.42
3	21.49	21.37	21.31	21.50	21.06	23.71	23.36	22.26	21.03	20.77	20.66	20.41
4	21.36	21.32	21.28	21.50	21.06	23.74	23.32	21.94	21.00	20.77	20.65	20.39
5	21.26	21.30	21.29	21.55	21.05	23.52	23.23	21.69	20.99	20.77	20.64	20.38
6	21.19	21.31	21.32	21.62	23.94	23.98	22.85	21.51	20.98	20.76	20.62	20.36
7	21.13	21.33	21.30	21.63	25.56	24.46	22.50	21.41	20.96	20.75	20.60	20.34
8	21.08	21.32	21.27	21.61	25.62	24.23	22.20	21.47	20.94	20.74	20.58	20.62
9	21.04	21.31	21.26	21.58	25.18	23.83	21.91	21.39	20.92	20.72	20.56	21.70
10	21.02	21.29	21.27	21.53	24.67	23.40	21.76	21.31	20.90	20.70	20.55	21.47
11	21.00	21.29	23.30	21.46	24.27	22.97	21.60	21.24	20.94	20.69	20.54	21.23
12	20.98	22.80	24.39	21.42	23.87	22.59	21.63	21.18	21.26	20.70	20.53	21.05
13	20.96	24.12	24.19	21.39	23.50	22.23	23.55	21.16	21.31	20.75	20.55	20.91
14	20.98	23.88	23.80	21.35	23.23	21.95	26.14	21.12	21.31	20.73	20.54	20.87
15	21.33	23.42	23.34	21.32	22.93	21.73	26.11	21.08	21.25	20.70	20.53	20.86
16	21.37	23.00	22.87	21.27	22.62	21.62	25.55	21.06	21.20	20.68	20.51	20.84
17	21.35	22.64	22.53	21.23	22.34	21.55	24.96	21.03	21.15	20.66	20.50	20.90
18	21.34	22.25	22.28	21.21	22.10	21.51	24.37	21.05	21.11	20.66	20.49	22.81
19	21.30	22.53	22.05	21.19	21.96	22.17	23.80	21.33	21.07	20.65	20.49	22.87
20	21.26	24.44	21.86	21.16	22.16	22.61	23.26	21.41	21.03	20.64	20.50	22.34
21	21.23	24.43	21.70	21.13	22.74	23.06	22.79	21.42	20.99	20.62	20.57	21.85
22	21.21	24.08	21.60	21.10	23.33	23.25	22.38	21.72	20.98	20.61	20.57	21.48
23	21.18	23.63	21.93	21.09	23.32	23.08	22.07	21.79	20.99	20.61	20.56	21.23
24	21.14	23.18	22.73	21.09	23.17	22.78	21.80	21.64	20.96	20.61	20.54	21.04
25	21.11	22.77	23.24	21.08	22.95	22.48	21.67	21.48	20.94	20.59	20.53	20.90
26	21.09	22.38	23.21	21.12	22.73	22.18	23.55	21.36	20.92	20.58	20.52	20.78
27	21.20	22.05	22.97	21.11	22.55	21.94	25.07	21.27	20.89	20.63	20.51	20.69
28	21.51	21.82	22.70	21.10	22.40	21.74	24.84	21.20	20.87	20.64	20.50	21.10
29	21.64	21.67	22.37	21.09	22.32	21.68	24.28	21.14	20.85	20.62	20.49	22.00
30	21.63	21.54	22.12	21.07	---	21.48	23.66	21.08	20.82	20.61	20.47	21.87
31	21.56	---	21.89	21.05	---	21.54	---	21.05	---	20.62	20.46	---
MEAN	21.28	22.38	22.26	21.32	22.92	22.66	23.28	21.46	21.02	20.68	20.55	21.14
MAX	21.91	24.44	24.39	21.70	25.62	24.46	26.14	23.05	21.31	20.80	20.67	22.87
MIN	20.96	21.29	21.26	21.05	21.02	21.48	21.50	21.03	20.82	20.58	20.46	20.34

01605002 PAINTER RUN NEAR FORT ASHBY, WV—Continued



01605500 SOUTH BRANCH POTOMAC RIVER AT FRANKLIN, WV

LOCATION.--Lat 38°38'08", long 79°20'17", NAD 27, Pendleton County, 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 mi^2.

PERIOD OF RECORD.--April 1940 to September 1969, October 1976 to current year.

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

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

REMARKS.--Records good except those for periods of estimated daily discharges (no gage-height record, ice effect), which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1936 reached a stage of about 13 ft.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 19	1400	*16,800	*12.26	Apr 13	2230	2,980	5.31
Dec 11	0400	3,000	5.32	Sep 8	2000	6,780	7.44
Feb 6	2300	2,270	4.82	Sep 28	1600	5,230	6.64

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e171	124	300	239	e70	227	213	301	246	87	71	44
2	e150	116	267	231	e65	303	199	307	208	117	78	44
3	133	112	241	237	e60	366	186	580	177	103	96	43
4	126	107	225	241	e67	345	178	449	161	91	73	42
5	122	105	226	239	79	337	169	385	236	86	67	41
6	111	115	216	229	739	531	161	330	232	82	75	41
7	104	119	197	194	1,220	614	154	283	200	75	65	43
8	98	106	179	178	581	525	151	248	175	78	59	1,420
9	94	101	171	180	398	428	150	224	162	73	57	1,200
10	92	98	238	170	327	366	138	203	163	72	54	436
11	89	97	1,870	153	299	321	131	190	151	82	53	263
12	87	221	873	160	265	294	200	208	183	97	53	192
13	83	860	604	155	251	259	1,360	180	169	91	91	153
14	88	499	511	146	255	234	1,800	163	153	80	70	124
15	282	372	422	144	232	220	884	156	205	74	60	108
16	183	302	347	115	206	244	610	178	420	71	57	98
17	159	256	361	116	190	328	474	200	368	68	62	113
18	157	223	342	126	177	298	387	205	285	66	56	463
19	136	4,550	301	119	186	398	329	223	239	112	52	322
20	125	2,420	269	101	278	399	291	202	205	90	50	224
21	116	1,000	232	e92	672	483	266	197	176	77	50	176
22	112	683	228	e83	477	466	239	232	161	71	54	143
23	108	518	317	e72	381	401	223	190	146	70	52	120
24	100	452	630	e70	345	345	208	165	139	66	49	106
25	93	428	636	e68	307	301	188	147	123	62	46	97
26	91	340	497	e66	272	266	673	153	123	60	45	90
27	128	299	405	104	238	245	743	216	110	61	44	87
28	198	337	345	92	218	229	534	508	100	66	45	2,360
29	170	401	309	84	215	209	410	446	95	61	46	1,610
30	151	326	297	e79	---	198	341	318	90	57	45	714
31	133	---	262	74	---	204	---	282	---	59	44	---
TOTAL	3,990	15,687	12,318	4,357	9,070	10,384	11,990	8,069	5,601	2,405	1,819	10,917
MEAN	129	523	397	141	313	335	400	260	187	77.6	58.7	364
MAX	282	4,550	1,870	241	1,220	614	1,800	580	420	117	96	2,360
MIN	83	97	171	66	60	198	131	147	90	57	44	41
CFSM	0.72	2.92	2.22	0.79	1.75	1.87	2.23	1.45	1.04	0.43	0.33	2.03
IN.	0.83	3.26	2.56	0.91	1.88	2.16	2.49	1.68	1.16	0.50	0.38	2.27

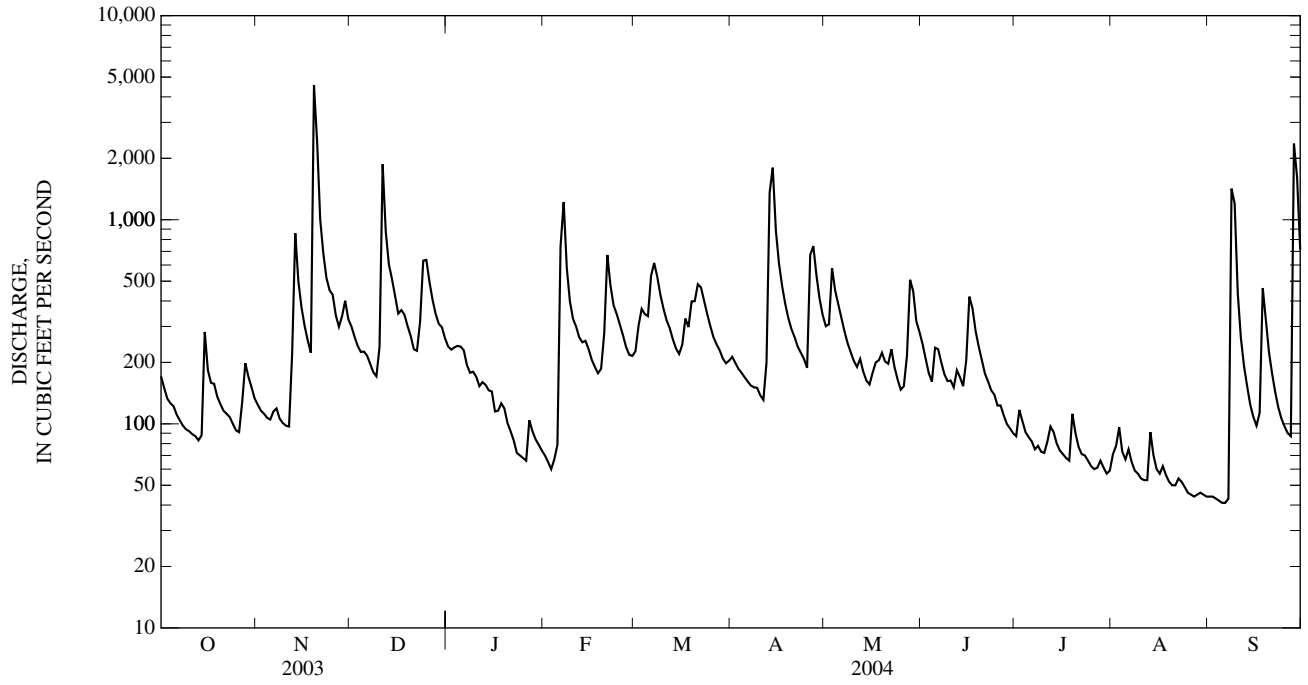
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

MEAN	79.0	140	162	207	256	395	291	236	139	71.7	78.6	87.6
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)

01605500 SOUTH BRANCH POTOMAC RIVER AT FRANKLIN, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004	
ANNUAL TOTAL	136,123		96,607			
ANNUAL MEAN	373		264		177	
HIGHEST ANNUAL MEAN					344	2003
LOWEST ANNUAL MEAN					85.2	1999
HIGHEST DAILY MEAN	5,900	Sep 19	4,550	Nov 19	25,000	Nov 4, 1985
LOWEST DAILY MEAN	37	Feb 16	41	(a)	14	(b)
ANNUAL SEVEN-DAY MINIMUM	46	Feb 12	43	Sep 1	14	Sep 6, 1966
MAXIMUM PEAK FLOW			16,800	Nov 19	(c)44,000	Nov 4, 1985
MAXIMUM PEAK STAGE			12.26	Nov 19	(d)22.58	Nov 4, 1985
INSTANTANEOUS LOW FLOW			41	(f)	13	Jan 17, 1966
ANNUAL RUNOFF (CFSM)	2.08		1.47		0.990	
ANNUAL RUNOFF (INCHES)	28.29		20.08		13.45	
10 PERCENT EXCEEDS	807		479		376	
50 PERCENT EXCEEDS	248		180		89	
90 PERCENT EXCEEDS	62		64		32	

a Sept. 5, 6.
b Sept. 7-12, 1966.
c From rating curve extended above 15,000 ft^3/s on basis of slope-area measurement of peak flow.
d From floodmarks.
e Estimated.
f Sept. 4-7.



01606000 NORTH FORK SOUTH BRANCH POTOMAC RIVER AT CABINS, WV

LOCATION.--Lat 38°59'04", long 79°14'02", NAD 27, Grant County, 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.--335 mi^2.

PERIOD OF RECORD.--February 1940 to September 1961, October 1961 to September 1978 (occasional discharge measurements and annual maximums only), October 1978 to September 1980, April 1998 to current year.

REVISED RECORDS.--WSP 1272: 1945.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,045.848 ft above NGVD 29.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect, no gage-height record), which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Discharge, 90,000 ft^3/s, Nov. 5, 1985, from slope-area measurement. Estimated discharge, 80,000 ft^3/s, Sept. 6, 1996, from modification of Nov. 5, 1985, slope-area measurement.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	0500	3,680	7.42	Apr 13	2400	5,690	8.44
Nov 19	1600	*12,600	*11.06	Sep 8	2100	11,200	10.60
Dec 11	0600	4,360	7.79	Sep 28	1800	6,130	8.64
Feb 6	2100	5,540	8.37				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235	350	447	543	e155	455	447	717	655	105	64	33
2	218	317	420	564	e150	996	494	654	510	95	65	24
3	193	288	386	952	143	1,790	493	1,210	398	82	59	19
4	182	261	365	1,210	156	2,030	574	1,080	328	93	59	16
5	188	246	363	1,020	e500	2,110	576	916	379	94	49	14
6	170	288	345	857	e1,700	2,650	555	766	400	76	44	14
7	151	310	306	672	3,750	2,470	591	642	345	67	44	16
8	137	294	269	665	1,870	1,880	780	567	292	66	40	2,030
9	127	283	260	532	1,190	1,390	807	495	250	61	35	2,690
10	121	269	312	455	909	1,090	656	433	230	57	31	884
11	116	262	3,370	537	781	919	566	389	274	193	28	460
12	109	955	2,030	389	e700	847	786	445	1,250	130	29	305
13	104	3,100	1,300	340	e680	718	3,370	918	770	125	35	224
14	108	1,860	1,010	296	e670	625	4,470	750	536	135	35	176
15	564	1,180	788	284	e580	608	2,460	706	472	111	35	146
16	656	837	611	313	e500	649	1,550	1,030	376	92	34	124
17	529	643	641	359	e460	841	1,130	666	441	76	33	186
18	505	510	670	291	e430	841	875	859	561	72	41	1,750
19	429	4,670	576	250	e410	1,380	711	826	759	67	33	966
20	376	4,670	494	207	487	1,450	606	831	527	79	29	570
21	338	2,200	407	e190	1,410	2,160	537	698	377	66	26	390
22	320	1,370	412	182	1,180	1,880	467	796	302	57	28	287
23	297	968	708	e165	864	1,360	420	674	258	57	32	223
24	259	752	1,540	e150	733	1,030	406	508	215	50	32	182
25	225	640	1,690	e135	625	828	372	399	193	46	27	156
26	206	509	1,210	e120	543	695	1,570	392	201	60	22	137
27	230	433	903	e144	475	611	2,240	550	162	130	18	124
28	479	407	722	e175	419	550	1,510	1,580	142	98	16	2,200
29	500	507	620	e170	409	478	1,090	1,780	121	72	15	2,820
30	454	455	619	e165	---	435	854	1,150	110	58	14	1,420
31	391	---	605	e160	---	427	---	860	---	51	15	---
TOTAL	8,917	29,834	24,399	12,492	22,879	36,193	31,963	24,287	11,834	2,621	1,067	18,586
MEAN	288	994	787	403	789	1,168	1,065	783	394	84.5	34.4	620
MAX	656	4,670	3,370	1,210	3,750	2,650	4,470	1,780	1,250	193	65	2,820
MIN	104	246	260	120	143	427	372	389	110	46	14	14
CFSM	0.86	2.97	2.35	1.20	2.36	3.49	3.18	2.34	1.18	0.25	0.10	1.85
IN.	0.99	3.31	2.71	1.39	2.54	4.02	3.55	2.70	1.31	0.29	0.12	2.06

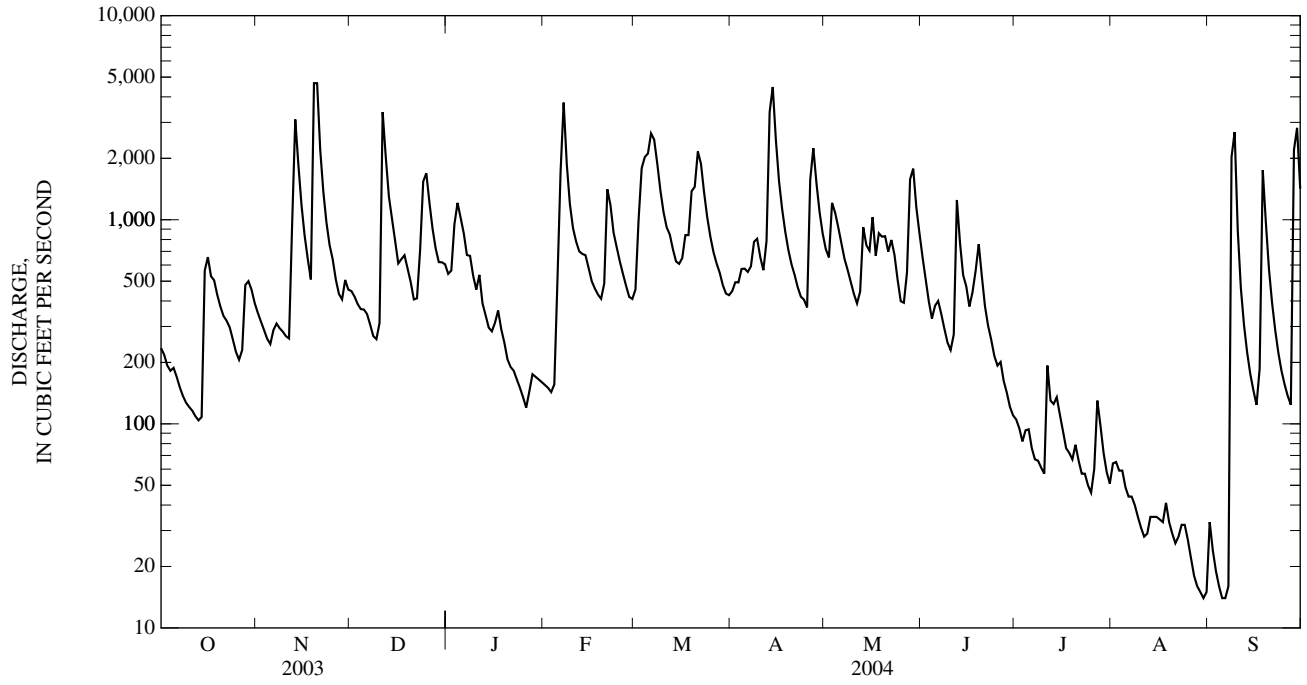
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

MEAN	147	214	395	484	682	876	800	590	323	130	143	148
MAX	913	994	1,114	1,053	1,473	1,716	1,703	1,404	1,133	655	767	678
(WY)	(1980)	(2004)	(1949)	(1952)	(1961)	(2003)	(1958)	(2003)	(2003)	(1949)	(1955)	(1950)
MIN	7.08	16.2	30.2	116	142	418	229	134	55.6	16.9	12.0	6.83
(WY)	(1954)	(1954)	(1999)	(1956)	(1941)	(1959)	(1955)	(1941)	(1999)	(1999)	(1999)	(1953)

01606000 NORTH FORK SOUTH BRANCH POTOMAC RIVER AT CABINS, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004	
ANNUAL TOTAL	302,072		225,072			
ANNUAL MEAN	828		615		408	
HIGHEST ANNUAL MEAN					814	2003
LOWEST ANNUAL MEAN					213	1959
HIGHEST DAILY MEAN	7,600	Sep 19	4,670	(a)	10,600	Aug 18, 1955
LOWEST DAILY MEAN	52	Aug 27	14	(b)	5.0	(c)
ANNUAL SEVEN-DAY MINIMUM	58	Aug 26	18	Aug 25	5.1	Sep 30, 1953
MAXIMUM PEAK FLOW			12,600	Nov 19	(d)90,000	Nov 5, 1985
MAXIMUM PEAK STAGE			11.06	Nov 19	(f)	Nov 5, 1985
INSTANTANEOUS LOW FLOW			12	Sep 6	5.0	(c)
ANNUAL RUNOFF (CFSM)	2.47		1.84		1.22	
ANNUAL RUNOFF (INCHES)	33.54		24.99		16.54	
10 PERCENT EXCEEDS	2,020		1,410		1,000	
50 PERCENT EXCEEDS	500		430		189	
90 PERCENT EXCEEDS	109		51		26	

a Nov. 19, 20.
b Aug. 30, Sept. 5, 6.
c Oct. 1-5, 9-11, 1953.
d From slope-area measurement.
e Estimated.
f Not determined.



01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV

LOCATION.--Lat 38°59'28", long 79°10'34", NAD 27, Grant County, 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.--676 mi^2.

PERIOD OF RECORD.--June 1928 to current year.

REVISED RECORDS.--WSP 951: 1939-41. WSP 1141: 1932, 1933(M), 1936-38. WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 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 6.34 ft lower. 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.--Records good except those for periods of estimated daily discharges (doubtful or no gage-height record, ice effect), which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1877 reached a stage of 21.2 ft, from floodmarks at previous site and datum, about 59,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 19	2000	*29,000	*14.86	Apr 14	0200	11,500	10.87
Dec 11	0730	9,600	10.35	Sep 8	2200	17,000	12.36
Feb 7	0100	9,540	10.33	Sep 28	1900	16,000	12.09

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	544	578	989	e1,050	325	863	838	1,260	1,120	261	175	120
2	503	536	924	e1,000	e315	1,360	883	1,130	911	251	191	114
3	453	498	848	1,310	305	2,470	851	2,100	748	272	190	107
4	420	463	790	1,640	329	2,670	901	1,840	634	277	204	101
5	417	441	791	1,430	341	2,810	896	1,520	734	259	172	97
6	392	483	765	1,260	3,180	3,410	844	1,280	873	229	165	98
7	357	517	692	1,020	6,870	3,590	860	1,080	728	215	167	103
8	330	496	625	864	3,380	2,880	1,030	953	631	211	151	2,480
9	308	467	590	860	2,240	2,260	1,080	835	557	202	140	6,500
10	294	442	632	739	1,730	1,810	922	740	522	186	133	1,860
11	282	429	6,240	608	1,540	1,500	814	666	543	341	125	1,010
12	269	1,050	3,960	660	1,330	1,360	1,000	704	1,670	294	129	693
13	258	4,450	2,670	626	1,210	1,190	5,450	1,070	1,150	296	155	527
14	259	3,010	2,150	557	1,200	1,040	8,650	946	853	285	185	421
15	882	2,020	1,730	533	1,090	992	4,550	905	879	242	151	356
16	1,040	1,450	1,350	435	920	1,030	3,020	1,250	944	211	142	311
17	820	1,150	1,350	389	819	1,390	2,270	1,050	1,220	188	137	348
18	778	951	1,440	495	758	1,380	1,760	1,360	1,110	183	146	2,300
19	691	9,690	1,240	481	734	2,070	1,420	1,240	1,280	184	135	1,620
20	617	10,000	1,080	390	967	2,260	1,200	1,260	953	229	124	986
21	560	4,350	928	366	2,500	3,020	1,080	1,120	740	186	129	713
22	531	2,870	893	e350	2,310	2,830	955	1,230	618	172	134	552
23	503	2,130	1,290	e320	1,690	2,220	863	1,110	548	182	134	448
24	459	1,660	2,440	e310	1,430	1,750	824	887	480	165	129	375
25	410	1,520	3,010	e295	1,250	1,420	744	727	449	148	120	328
26	377	1,210	2,280	287	1,080	1,210	2,590	703	516	142	112	294
27	399	1,030	1,760	340	965	1,080	3,960	942	402	246	109	270
28	728	957	e1,550	359	866	993	2,750	2,180	344	220	107	4,850
29	791	1,210	e1,400	356	825	889	1,990	2,720	308	195	108	6,460
30	729	1,060	e1,250	347	---	813	1,530	1,780	282	172	106	2,880
31	641	---	e1,150	338	---	803	---	1,360	---	161	103	---
TOTAL	16,042	57,118	48,807	20,015	42,499	55,363	56,525	37,948	22,747	6,805	4,408	37,322
MEAN	517	1,904	1,574	646	1,465	1,786	1,884	1,224	758	220	142	1,244
MAX	1,040	10,000	6,240	1,640	6,870	3,590	8,650	2,720	1,670	341	204	6,500
MIN	258	429	590	287	305	803	744	666	282	142	103	97
CFSM	0.77	2.82	2.33	0.96	2.17	2.64	2.79	1.81	1.12	0.32	0.21	1.84
IN.	0.88	3.14	2.69	1.10	2.34	3.05	3.11	2.09	1.25	0.37	0.24	2.05

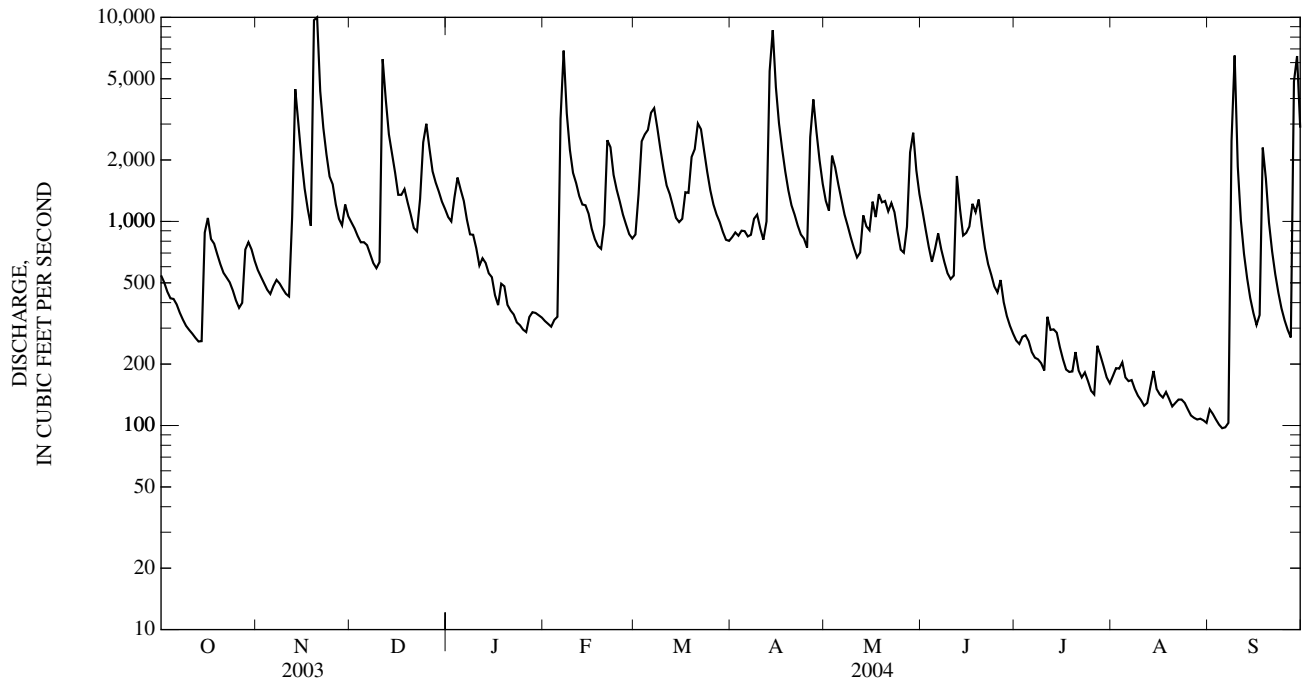
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2004, BY WATER YEAR (WY)

MEAN	322	504	714	921	1,163	1,652	1,294	1,035	553	293	287	284
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	543	398	233	125	63.9	54.1	52.3
(WY)	(1931)	(1931)	(1966)	(1981)	(1934)	(1990)	(1986)	(1930)	(1999)	(1999)	(1930)	(1930)

01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1928 - 2004	
ANNUAL TOTAL	591,715		405,599			
ANNUAL MEAN	1,621		1,108		750	
HIGHEST ANNUAL MEAN					1,619	1996
LOWEST ANNUAL MEAN					365	1969
HIGHEST DAILY MEAN	18,600	Sep 19	10,000	Nov 20	77,000	Nov 5, 1985
LOWEST DAILY MEAN	170	Aug 31	97	Sep 5	43	(a)
ANNUAL SEVEN-DAY MINIMUM	179	Aug 26	106	Aug 31	44	Sep 6, 1966
MAXIMUM PEAK FLOW			29,000	Nov 19	(b)130,000	Nov 5, 1985
MAXIMUM PEAK STAGE			14.86	Nov 19	(c)25.40	Nov 5, 1985
INSTANTANEOUS LOW FLOW			93	Sep 5	42	(d)
ANNUAL RUNOFF (CFSM)	2.40		1.64		1.11	
ANNUAL RUNOFF (INCHES)	32.56		22.32		15.07	
10 PERCENT EXCEEDS	3,710		2,350		1,690	
50 PERCENT EXCEEDS	1,010		814		380	
90 PERCENT EXCEEDS	246		170		96	

a Sept. 27-29, 1959, Sept. 11, 12, 1966.
b From rating curve extended above 16,700 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks at former site at gage datum 962.00 ft.
d Sept. 28, 29, 1959, Sept. 11, 12, 1966.
e Estimated.



01606900 SOUTH MILL CREEK NEAR MOZER, WV
(Detention Reservoir)

LOCATION.--Lat 38°50'17", long 79°09'48", NAD 27, Grant County, Hydrologic Unit 02070001.

DAM NAME.--North and South Mill Creek No. 7.

SURFACE AREA.--48 acres.

DRAINAGE AREA.--10.0 mi^2.

PERIOD OF RECORD.--October 2003 to September 2004.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,279.95 ft above NGVD 29.

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

Top of Riser = 11.0 ft

Emergency Spillway = 31.8 ft

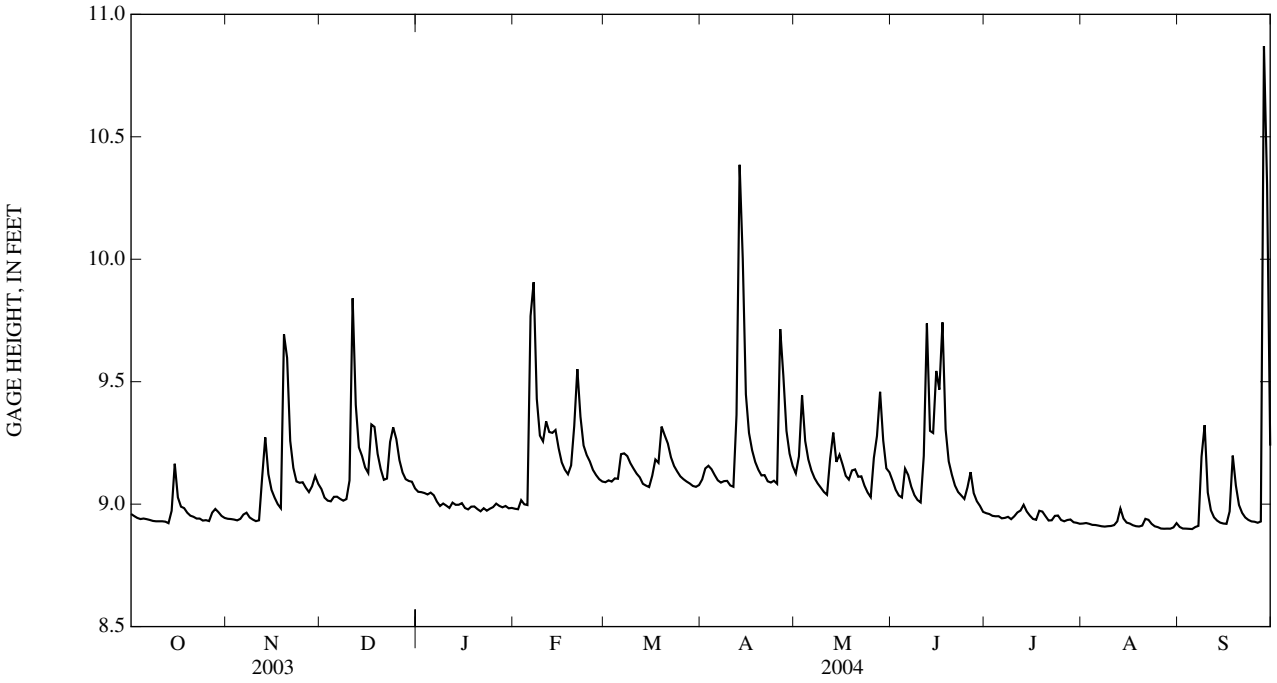
Top of Dam = 45.2 ft

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 12.98 ft, Sept. 28; minimum gage height, 8.89 ft, Aug. 27, 29, and Sept. 4, 5.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.96	8.94	9.06	9.05	8.98	9.09	9.10	9.13	9.10	8.96	8.92	8.91
2	8.95	8.94	9.03	9.05	8.98	9.10	9.15	9.20	9.06	8.96	8.92	8.90
3	8.94	8.94	9.01	9.05	9.02	9.09	9.16	9.44	9.04	8.95	8.92	8.90
4	8.94	8.93	9.01	9.04	9.00	9.11	9.14	9.26	9.03	8.95	8.92	8.90
5	8.94	8.94	9.03	9.05	9.00	9.10	9.12	9.18	9.14	8.95	8.91	8.90
6	8.94	8.96	9.03	9.04	9.77	9.20	9.10	9.14	9.12	8.94	8.91	8.91
7	8.94	8.96	9.02	9.01	9.91	9.21	9.09	9.11	9.07	8.94	8.91	8.91
8	8.93	8.95	9.01	8.99	9.43	9.20	9.09	9.08	9.04	8.95	8.91	9.19
9	8.93	8.94	9.02	9.00	9.28	9.17	9.10	9.07	9.02	8.94	8.91	9.32
10	8.93	8.93	9.10	8.99	9.26	9.14	9.08	9.05	9.01	8.95	8.91	9.05
11	8.93	8.93	9.84	8.98	9.34	9.12	9.07	9.04	9.20	8.97	8.91	8.97
12	8.93	9.11	9.41	9.01	9.29	9.11	9.36	9.19	9.74	8.97	8.93	8.95
13	8.92	9.27	9.23	9.00	9.29	9.08	10.39	9.29	9.30	9.00	8.98	8.93
14	8.97	9.12	9.20	9.00	9.30	9.08	10.00	9.17	9.29	8.97	8.94	8.92
15	9.16	9.06	9.15	9.00	9.23	9.07	9.45	9.20	9.54	8.95	8.92	8.92
16	9.03	9.03	9.13	8.98	9.17	9.12	9.29	9.16	9.47	8.94	8.92	8.92
17	8.99	9.00	9.33	8.98	9.14	9.18	9.22	9.12	9.74	8.94	8.91	8.97
18	8.98	8.98	9.32	8.99	9.12	9.17	9.17	9.10	9.31	8.97	8.91	9.20
19	8.97	9.69	9.21	8.99	9.16	9.32	9.14	9.14	9.17	8.97	8.91	9.08
20	8.95	9.60	9.14	8.98	9.32	9.28	9.12	9.14	9.12	8.95	8.91	9.00
21	8.95	9.26	9.10	8.97	9.55	9.25	9.12	9.11	9.08	8.93	8.94	8.96
22	8.94	9.15	9.10	8.98	9.36	9.19	9.09	9.11	9.05	8.93	8.94	8.95
23	8.94	9.09	9.25	8.97	9.24	9.16	9.09	9.08	9.04	8.95	8.92	8.94
24	8.93	9.09	9.31	8.98	9.20	9.13	9.10	9.05	9.02	8.95	8.91	8.93
25	8.93	9.09	9.27	8.99	9.17	9.11	9.08	9.03	9.07	8.94	8.91	8.93
26	8.93	9.07	9.18	9.00	9.14	9.10	9.71	9.19	9.13	8.93	8.90	8.92
27	8.97	9.05	9.13	8.99	9.12	9.09	9.52	9.28	9.04	8.94	8.90	8.93
28	8.98	9.07	9.10	8.99	9.10	9.08	9.30	9.46	9.01	8.94	8.90	10.87
29	8.97	9.12	9.09	8.99	9.09	9.07	9.21	9.26	8.99	8.93	8.90	10.30
30	8.95	9.08	9.09	8.98	---	9.07	9.16	9.15	8.97	8.92	8.90	9.24
31	8.94	---	9.06	8.98	---	9.08	---	9.13	---	8.92	8.92	---
MEAN	8.96	9.08	9.16	9.00	9.24	9.14	9.26	9.16	9.16	8.95	8.92	9.09
MAX	9.16	9.69	9.84	9.05	9.91	9.32	10.39	9.46	9.74	9.00	8.98	10.87
MIN	8.92	8.93	9.01	8.97	8.98	9.07	9.07	9.03	8.97	8.92	8.90	8.90

01606900 SOUTH MILL CREEK NEAR MOZER, WV—Continued



01607300 BRUSHY FORK NEAR SUGAR GROVE, WV
(Detention Reservoir)

LOCATION.-- Lat 38°27'59", long 79°19'08", NAD 83, Pendleton County, Hydrologic Unit 02070001.

DAM NAME.--South Fork # 19.

SURFACE AREA.--26 acres.

DRAINAGE AREA.--15.2 mi^2.

PERIOD OF RECORD.--June 2004 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 689.05 ft. above NGVD 29.

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

Top of Riser = 50.00 ft

Emergency Spillway = 83.1 ft

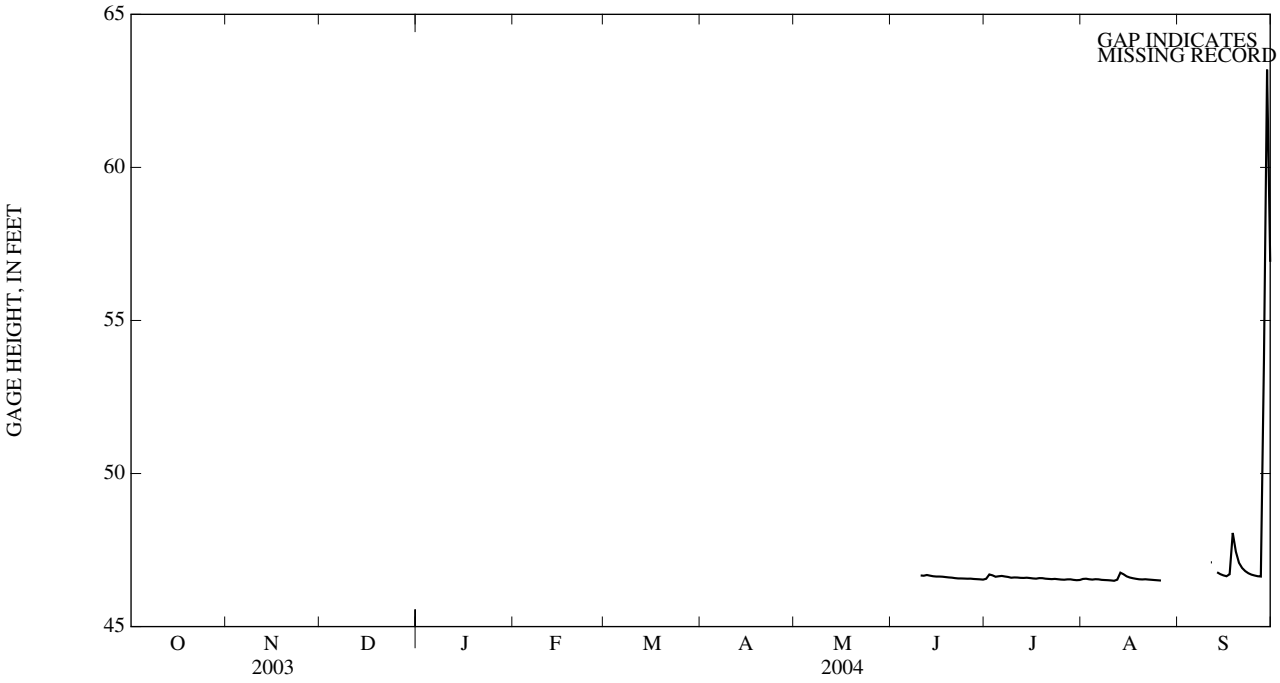
Top of Dam = 101.00 ft

EXTREMES FOR JUNE TO SEPTEMBER 2004.--Maximum gage height, 64.33 ft, Sept. 29; minimum gage height, 46.49 ft, Aug. 11, 12, 30, and Sept. 7.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	46.56	46.56	---
2	---	---	---	---	---	---	---	---	---	46.70	46.56	---
3	---	---	---	---	---	---	---	---	---	46.68	46.55	---
4	---	---	---	---	---	---	---	---	---	46.63	46.54	---
5	---	---	---	---	---	---	---	---	---	46.64	46.55	---
6	---	---	---	---	---	---	---	---	---	46.66	46.54	---
7	---	---	---	---	---	---	---	---	---	46.64	46.53	---
8	---	---	---	---	---	---	---	---	---	46.62	46.52	---
9	---	---	---	---	---	---	---	---	---	46.60	46.52	---
10	---	---	---	---	---	---	---	---	46.67	46.61	46.51	---
11	---	---	---	---	---	---	---	---	46.66	46.60	46.50	47.10
12	---	---	---	---	---	---	---	---	46.69	46.59	46.53	---
13	---	---	---	---	---	---	---	---	46.66	46.59	46.76	46.77
14	---	---	---	---	---	---	---	---	46.64	46.60	46.71	46.71
15	---	---	---	---	---	---	---	---	46.63	46.59	46.64	46.67
16	---	---	---	---	---	---	---	---	46.64	46.57	46.60	46.65
17	---	---	---	---	---	---	---	---	46.63	46.57	46.58	46.71
18	---	---	---	---	---	---	---	---	46.62	46.58	46.56	48.06
19	---	---	---	---	---	---	---	---	46.61	46.58	46.55	47.45
20	---	---	---	---	---	---	---	---	46.60	46.57	46.54	47.08
21	---	---	---	---	---	---	---	---	46.58	46.56	46.55	46.91
22	---	---	---	---	---	---	---	---	46.57	46.55	46.54	46.81
23	---	---	---	---	---	---	---	---	46.57	46.56	46.53	46.74
24	---	---	---	---	---	---	---	---	46.57	46.55	46.52	46.70
25	---	---	---	---	---	---	---	---	46.56	46.54	46.51	46.67
26	---	---	---	---	---	---	---	---	46.57	46.53	46.50	46.65
27	---	---	---	---	---	---	---	---	46.56	46.54	---	46.64
28	---	---	---	---	---	---	---	---	46.55	46.54	---	53.73
29	---	---	---	---	---	---	---	---	46.54	46.53	---	63.19
30	---	---	---	---	---	---	---	---	46.53	46.52	---	56.92
31	---	---	---	---	---	---	---	---	---	46.52	---	---
MEAN	---	---	---	---	---	---	---	---	---	46.58	---	---
MAX	---	---	---	---	---	---	---	---	---	46.70	---	---
MIN	---	---	---	---	---	---	---	---	---	46.52	---	---

01607300 BRUSHY FORK NEAR SUGAR GROVE, WV—Continued



01607500 SOUTH FORK SOUTH BRANCH POTOMAC RIVER AT BRANDYWINE, WV

LOCATION.--Lat 38°37'53", long 79°14'38", NAD 27, Pendleton County, 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 mi^2.

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

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 1,558.35 ft above NGVD 29. Prior to Sept. 24, 1956, nonrecording gage at highway bridge 50 ft downstream at same datum.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect), which are poor. The flow from 41.3 mi^2 upstream from station is 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 ft^3/s and 45,000 ft^3/s, respectively; based on notes from local residents comparing these peaks to the 1949 peak.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 3,170 ft^3/s, Sept. 28, gage height, 6.68 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	62	221	99	e22	94	74	158	131	18	18	7.1
2	70	53	171	89	e20	99	74	172	104	44	23	6.8
3	62	49	136	85	e19	115	72	373	84	33	19	7.1
4	56	48	117	80	31	124	70	302	66	27	15	6.8
5	54	44	114	77	68	131	63	232	95	24	14	6.8
6	49	47	105	75	734	294	57	184	86	22	18	6.8
7	46	50	92	63	1,170	443	56	156	68	21	15	7.4
8	43	47	79	55	537	328	56	132	56	23	13	465
9	40	46	71	57	337	234	56	117	50	19	11	1,290
10	38	41	114	50	255	182	53	97	48	19	11	833
11	38	39	1,490	45	231	135	53	89	49	22	10	324
12	36	60	750	50	206	116	112	110	64	20	12	111
13	35	704	398	46	199	101	1,180	97	55	23	53	63
14	39	420	312	42	211	87	1,410	81	49	20	35	48
15	118	261	229	42	189	78	801	67	52	17	24	39
16	78	181	176	37	150	90	378	92	68	16	17	31
17	64	139	232	42	125	121	265	852	75	15	14	36
18	65	111	275	39	112	130	199	399	58	16	13	786
19	61	935	211	36	112	229	161	303	50	19	11	567
20	51	1,390	164	32	136	274	138	239	44	17	10	229
21	48	961	127	e27	328	264	124	208	39	14	11	115
22	47	517	112	e23	319	211	113	207	35	14	12	74
23	44	247	162	e18	234	167	106	159	31	18	11	53
24	43	197	454	e17	192	138	100	126	30	14	9.3	44
25	40	229	567	e16	170	119	90	99	28	13	8.5	37
26	39	190	376	e15	141	105	362	98	28	13	8.0	31
27	53	162	265	e38	124	95	564	112	26	13	8.2	28
28	106	176	200	34	111	89	362	336	23	15	7.6	1,440
29	94	293	162	31	100	80	246	302	21	13	7.5	1,680
30	76	275	141	e28	---	73	186	196	19	12	7.7	1,160
31	70	---	118	e25	---	73	---	158	---	11	7.4	---
TOTAL	1,779	7,974	8,141	1,413	6,583	4,819	7,581	6,253	1,632	585	454.2	9,532.8
MEAN	57.4	266	263	45.6	227	155	253	202	54.4	18.9	14.7	318
MAX	118	1,390	1,490	99	1,170	443	1,410	852	131	44	53	1,680
MIN	35	39	71	15	19	73	53	67	19	11	7.4	6.8
CFSM	0.56	2.58	2.55	0.44	2.20	1.51	2.45	1.96	0.53	0.18	0.14	3.09
IN.	0.64	2.88	2.94	0.51	2.38	1.74	2.74	2.26	0.59	0.21	0.16	3.44

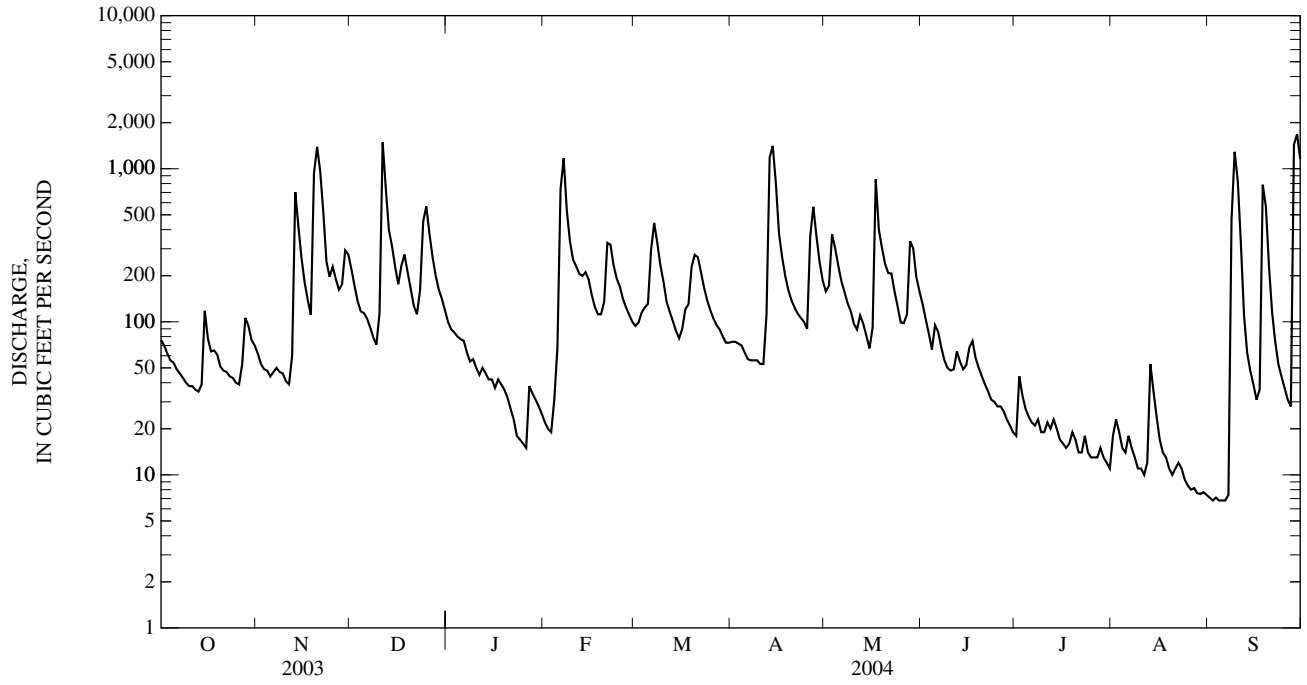
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2004, BY WATER YEAR (WY)

MEAN	56.9	87.9	108	127	154	231	168	131	75.2	31.8	38.6	56.7
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)

01607500 SOUTH FORK SOUTH BRANCH POTOMAC RIVER AT BRANDYWINE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1943 - 2004	
ANNUAL TOTAL	75,476		56,747.0			
ANNUAL MEAN	207		155		105	
HIGHEST ANNUAL MEAN					215	2003
LOWEST ANNUAL MEAN					38.6	1981
HIGHEST DAILY MEAN	3,250	Sep 19	1,680	Sep 29	7,500	Nov 4, 1985
LOWEST DAILY MEAN	13	(a)	6.8	(b)	0.20	Aug 13, 1999
ANNUAL SEVEN-DAY MINIMUM	13	Jul 27	7.0	Aug 31	0.42	Aug 4, 1999
MAXIMUM PEAK FLOW			3,170	Sep 28	(c)41,200	Jun 17, 1949
MAXIMUM PEAK STAGE			6.68	Sep 28	(d)18.42	Nov 4, 1985
INSTANTANEOUS LOW FLOW			6.8	(f)	0.17	Aug 13, 1999
ANNUAL RUNOFF (CFSM)	2.01		1.51		1.02	
ANNUAL RUNOFF (INCHES)	27.26		20.50		13.89	
10 PERCENT EXCEEDS	501		330		226	
50 PERCENT EXCEEDS	102		74		39	
90 PERCENT EXCEEDS	19		14		7.4	

a July 27, 28, 30, 31, Aug. 1-3, 26, 27.
b Sept. 2, 4-6.
c From rating curve extended above 5,300 ft^3/s on basis of slope-area measurement of peak flow.
d From floodmarks.
e Estimated.
f Sept. 1-7.



01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV

LOCATION.--Lat 39°00'44", long 78°57'23", NAD 27, Hardy County, 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 mi^2.

PERIOD OF RECORD.--June 1928 to September 1935, August 1938 to current year.

REVISED RECORDS.--WSP 1141: 1933(M), 1940, 1942-43, 1945, 1948(M). WSP 1302:l93l(M), l935(M). WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 861.51 ft above sea level (U.S. Army Corps of Engineers datum). Prior to Mar. 11, 1940, nonrecording gage at Harness Ford Bridge 2.0 mi upstream at datum about 31 ft higher.

REMARKS.--Records good except those for periods of estimated discharges (ice effect, doubtful gage-height record), which are poor. The flow from 92.7 mi^2 upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,870 acre-ft. Water-quality data furnished by Maryland USGS.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 7,570 ft^3/s, Sept. 28, gage height, 8.35 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	197	183	510	276	e70	234	196	419	332	59	39	e21
2	172	173	412	251	e65	228	270	370	267	55	49	e21
3	153	161	332	236	e60	240	387	720	223	64	101	e21
4	136	149	286	225	e110	265	349	711	189	79	71	20
5	126	143	274	215	e200	282	280	564	187	74	57	20
6	116	147	260	207	445	345	230	458	219	64	51	20
7	106	147	235	193	2,360	662	204	369	198	60	47	21
8	97	145	213	176	1,030	636	196	310	171	58	44	46
9	86	139	198	163	570	535	190	263	150	55	39	1,640
10	81	132	203	162	414	415	161	238	135	54	35	1,010
11	77	127	2,720	158	407	345	147	224	134	54	32	652
12	72	200	1,770	140	357	304	203	193	250	65	33	309
13	69	688	954	148	330	273	2,000	200	253	74	43	196
14	78	826	709	140	320	253	3,710	199	209	64	62	147
15	164	580	570	133	314	e215	1,710	190	287	57	70	119
16	235	442	462	143	259	e220	920	205	247	49	59	98
17	194	354	534	146	207	e230	613	510	261	44	52	89
18	172	295	665	128	176	240	472	687	235	44	46	505
19	158	856	557	e115	157	332	370	521	206	47	42	969
20	147	3,190	457	e105	186	458	307	448	177	45	39	540
21	136	1,600	373	e90	440	467	271	414	149	42	39	310
22	130	1,060	325	e74	596	454	237	414	128	44	38	217
23	126	631	369	e64	514	393	211	359	114	45	35	161
24	118	477	601	e56	439	340	201	281	101	50	33	127
25	113	469	1,030	e52	410	301	190	232	92	46	31	105
26	109	437	809	e49	348	269	1,010	215	93	43	28	90
27	117	391	608	e120	307	247	1,630	242	83	40	26	81
28	156	366	491	e110	274	237	1,020	502	75	43	e25	1,990
29	213	563	414	e98	250	231	662	668	69	40	e24	4,610
30	213	580	356	e86	---	207	510	483	63	39	e23	1,920
31	202	---	316	e78	---	191	---	397	---	38	e22	---
TOTAL	4,269	15,651	18,013	4,337	11,615	10,049	18,857	12,006	5,297	1,635	1,335	16,075
MEAN	138	522	581	140	401	324	629	387	177	52.7	43.1	536
MAX	235	3,190	2,720	276	2,360	662	3,710	720	332	79	101	4,610
MIN	69	127	198	49	60	191	147	190	63	38	22	20
CFSM	0.50	1.88	2.10	0.51	1.45	1.17	2.27	1.40	0.64	0.19	0.16	1.93
IN.	0.57	2.10	2.42	0.58	1.56	1.35	2.53	1.61	0.71	0.22	0.18	2.16

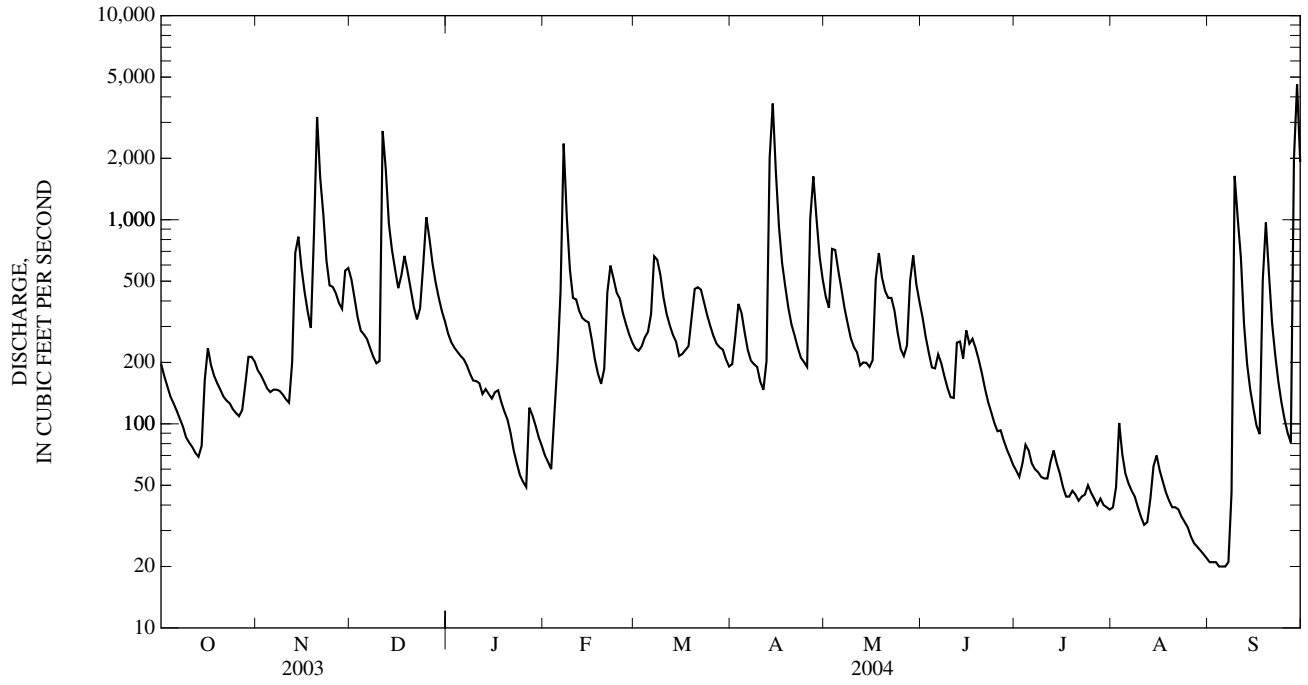
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2004, BY WATER YEAR (WY)

MEAN	126	181	211	263	337	495	416	331	173	84.1	106	110
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)

01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1928 - 2004	
ANNUAL TOTAL	195,533		119,139			
ANNUAL MEAN	536		326		235	
HIGHEST ANNUAL MEAN					526	2003
LOWEST ANNUAL MEAN					85.9	1934
HIGHEST DAILY MEAN	9,680	Sep 19	4,610	Sep 29	28,000	Nov 5, 1985
LOWEST DAILY MEAN	31	(a)	20	(b)	4.4	Sep 10, 1966
ANNUAL SEVEN-DAY MINIMUM	33	Aug 26	21	Sep 1	5.3	Sep 5, 1966
MAXIMUM PEAK FLOW			7,570	Sep 28	(c)110,000	Nov 5, 1985
MAXIMUM PEAK STAGE			8.35	Sep 28	(d)19.99	Nov 5, 1985
INSTANTANEOUS LOW FLOW			20	(f)	3.1	Aug 13, 1999
ANNUAL RUNOFF (CFSM)	1.93		1.18		0.850	
ANNUAL RUNOFF (INCHES)	26.26		16.00		11.54	
10 PERCENT EXCEEDS	1,250		632		522	
50 PERCENT EXCEEDS	267		202		97	
90 PERCENT EXCEEDS	48		44		21	

a Aug. 31, Sept. 1.
b Sept. 4-6.
c From rating curve extended above 39,000 ft^3/s on basis of slope-area measurement of peak flow.
d From floodmarks.
e Estimated.
f Sept. 5,6.



01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV

LOCATION.--Lat 39°26'49", long 78°39'16", NAD 27, Hampshire County, Hydrologic Unit 02070001, on left bank at highway bridge, 2.0 mi east of Springfield, and at mile 13.5.

DRAINAGE AREA.--1,486 mi^2.

PERIOD OF RECORD.--June 1894 to February 1896 (fragmentary), June 1899 to February 1902, August 1903 to July 1906, August 1928 to current year.

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.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 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. June 26, 1899, to Feb. 2, 1902, nonrecording gage at bridge 10.0 mi upstream at different datum. Aug. 28, 1903, to July 14, 1906, nonrecording gage at present site at different datum. Aug. 8 to Sept. 24, 1928, nonrecording gage at present site and datum.

REMARKS.--Records good except those for period of estimated daily discharges (ice effect), which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877 reached a stage of about 34 ft, from floodmarks, discharge, 140,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 20	1230	*29,000	*18.00	Apr 14	1430	19,800	14.25
Dec 11	2100	16,100	12.45	Sep 9	1430	14,400	11.62
Feb 6	2400	25,700	16.71	Sep 29	1030	21,800	15.19

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,370	1,150	2,050	1,860	856	1,650	1,550	2,390	1,880	498	351	160
2	1,220	1,060	1,860	1,710	830	1,830	2,760	2,070	1,580	465	309	153
3	1,100	998	1,690	1,700	778	2,740	2,820	2,670	1,340	440	286	164
4	1,010	942	1,540	2,030	770	3,140	2,430	3,390	1,160	473	358	160
5	949	910	1,490	2,150	863	3,600	2,110	2,740	1,060	755	349	154
6	910	933	1,480	1,970	2,750	3,850	1,820	2,320	1,210	664	312	150
7	862	1,040	1,420	1,750	16,100	5,280	1,640	1,970	1,270	491	276	145
8	805	1,070	1,320	1,510	8,570	4,580	1,590	1,770	1,100	448	265	246
9	758	1,000	1,240	1,400	4,840	3,680	1,740	1,540	980	437	263	7,400
10	713	941	1,230	1,340	3,520	2,960	1,640	1,370	898	399	244	4,760
11	680	903	8,740	1,200	3,590	2,470	1,450	1,230	877	383	225	2,510
12	655	2,530	10,400	1,120	3,200	2,160	1,510	1,130	2,500	446	217	1,600
13	627	4,770	5,710	1,150	2,890	1,960	8,210	1,150	2,640	543	222	1,110
14	616	5,730	4,030	1,090	2,930	1,750	17,900	1,470	1,790	510	256	853
15	892	3,670	3,300	1,020	2,630	1,590	10,900	1,360	1,450	478	281	703
16	1,500	2,720	2,720	944	2,210	1,550	6,290	1,450	1,560	426	324	601
17	1,490	2,180	2,460	814	1,860	1,750	4,280	1,650	2,070	384	264	542
18	1,330	1,840	3,070	798	1,670	2,070	3,260	2,030	1,940	364	246	1,790
19	1,260	2,230	2,760	896	1,600	2,620	2,630	2,540	1,740	360	238	3,700
20	1,140	20,500	2,360	858	2,160	3,430	2,220	2,540	1,650	348	245	2,360
21	1,060	9,850	2,030	701	3,830	3,990	1,990	2,080	1,330	363	274	1,550
22	983	5,820	1,800	649	5,380	4,440	1,790	2,020	1,110	361	259	1,150
23	941	3,940	2,440	e620	3,750	3,540	1,630	1,990	980	344	250	913
24	911	2,980	3,960	e570	3,050	2,850	1,530	1,670	891	374	224	750
25	859	2,610	5,650	e515	2,650	2,390	1,520	1,380	793	378	212	638
26	804	2,370	4,630	497	2,290	2,060	4,710	1,210	753	317	202	560
27	831	2,040	3,470	913	2,000	1,830	9,040	1,300	820	331	190	507
28	1,270	1,850	2,810	1,040	1,800	1,680	5,870	1,700	671	383	178	1,210
29	1,420	2,040	2,410	1,010	1,660	1,540	3,910	3,600	595	372	175	16,700
30	1,390	2,320	2,160	916	---	1,420	2,940	2,950	538	342	170	7,760
31	1,270	---	2,030	929	---	1,380	---	2,180	---	315	165	---
TOTAL	31,626	92,937	94,260	35,670	91,027	81,780	113,680	60,860	39,176	13,192	7,830	60,999
MEAN	1,020	3,098	3,041	1,151	3,139	2,638	3,789	1,963	1,306	426	253	2,033
MAX	1,500	20,500	10,400	2,150	16,100	5,280	17,900	3,600	2,640	755	358	16,700
MIN	616	903	1,230	497	770	1,380	1,450	1,130	538	315	165	145
CFSM	0.69	2.08	2.05	0.77	2.11	1.78	2.55	1.32	0.88	0.29	0.17	1.37
IN.	0.79	2.33	2.36	0.89	2.28	2.05	2.85	1.52	0.98	0.33	0.20	1.53

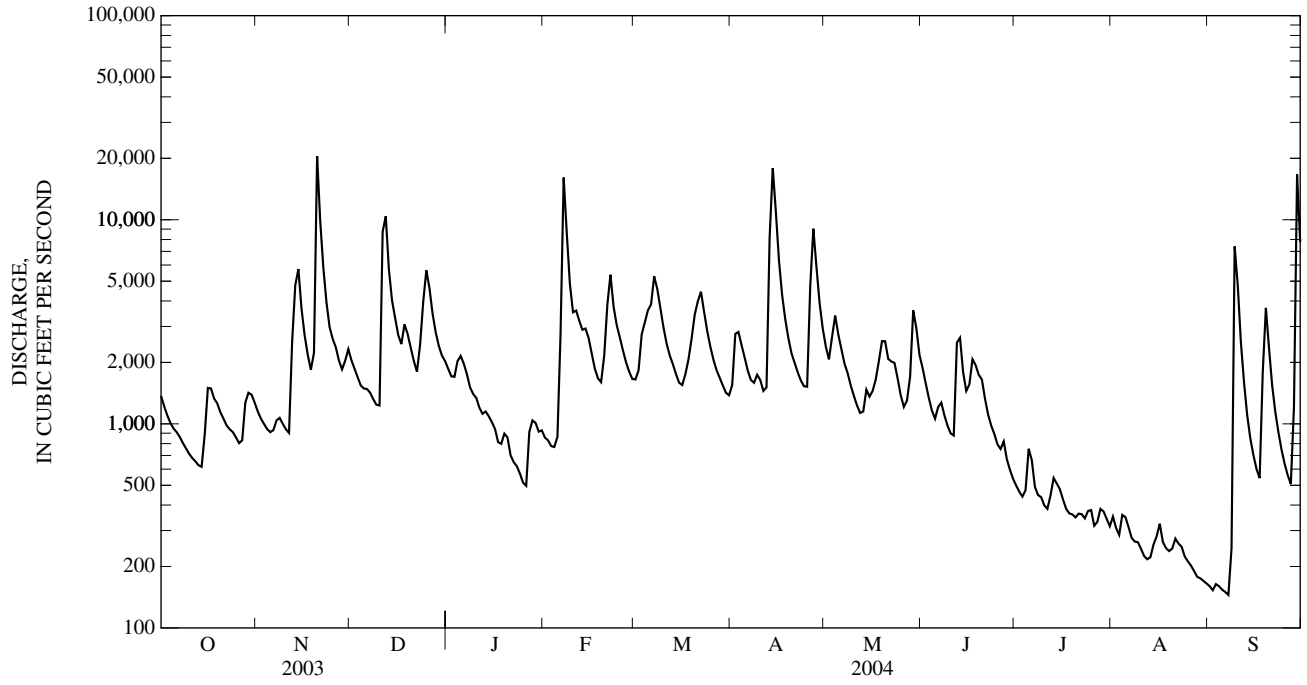
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 2004, BY WATER YEAR (WY)

MEAN	616	884	1,250	1,620	2,053	3,021	2,405	1,846	1,048	528	542	521
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	791	829	366	217	86.7	73.5	76.6
(WY)	(1931)	(1905)	(1966)	(1981)	(2002)	(1981)	(1976)	(1977)	(1999)	(1999)	(1930)	(1930)

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1899 - 2004	
ANNUAL TOTAL	1,050,566		723,037			
ANNUAL MEAN	2,878		1,976		1,358	
HIGHEST ANNUAL MEAN					2,975	1996
LOWEST ANNUAL MEAN					566	1969
HIGHEST DAILY MEAN	34,700	Sep 20	20,500	Nov 20	145,000	Nov 5, 1985
LOWEST DAILY MEAN	321	Feb 17	145	Sep 7	52	(a)
ANNUAL SEVEN-DAY MINIMUM	345	Aug 26	155	Sep 1	54	Sep 7, 1966
MAXIMUM PEAK FLOW			29,000	Nov 20	(b)240,000	Nov 5, 1985
MAXIMUM PEAK STAGE			18.00	Nov 20	(c)44.22	Nov 5, 1985
INSTANTANEOUS LOW FLOW			143	(d)	29	(f)
ANNUAL RUNOFF (CFSM)	1.94		1.33		0.914	
ANNUAL RUNOFF (INCHES)	26.30		18.10		12.41	
10 PERCENT EXCEEDS	6,020		3,770		3,070	
50 PERCENT EXCEEDS	1,780		1,440		660	
90 PERCENT EXCEEDS	453		316		152	

a Sept. 11, 12, 1966.
b From rating curve extended above 145,000 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks.
d Sept. 7, 8.
e Estimated.
f Jan. 28, 1956 (result of freeze-up), July 30, 1966 (result of temporary dam).



01610000 POTOMAC RIVER AT PAW PAW, WV

LOCATION.--Lat 39°32'20.1", long 78°27'23.0", Allegany County, Md., Hydrologic Unit 02070003, on left bank 250 ft upstream from bridge on Maryland State Highway 51 at Paw Paw, 3.3 mi downstream from Little Cacapon River, and at mile 277.

DRAINAGE AREA.--3,129 mi^2.

PERIOD OF RECORD.--October 1938 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 487.88 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1939, nonrecording gage at bridge 250 ft downstream at same datum.

REMARKS.-- Records good except those for estimated daily discharge (ice effect), which are fair. Low flow affected by Stony River Reservoir prior to July 1981, since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers satellite collection platform at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 54.0 ft on Mar. 18, 1936, discharge, 240,000 ft^3/s, from rating curve extended above 85,000 ft^3/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, WV.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 20	1700	*42,000	*22.80	Apr 14	1400	36,900	21.24
Dec 11	2330	28,800	18.60	Sep 9	1700	29,600	18.89
Feb 7	0530	25,500	17.46	Sep 29	1330	25,700	17.54

Minimum discharge, 665 ft^3/s, Sept. 6-8.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,650	2,890	5,130	5,330	e1,430	5,860	5,010	5,820	3,590	1,300	5,780	826
2	3,890	2,670	4,670	5,030	e1,420	7,420	13,300	5,220	3,180	1,220	2,980	754
3	3,350	2,530	4,300	5,000	e1,420	11,800	12,700	5,950	2,820	1,170	2,070	718
4	3,030	2,400	3,960	5,550	e2,050	11,700	10,700	6,670	2,540	1,570	1,710	712
5	3,200	2,320	3,840	6,580	2,060	13,900	9,270	5,770	2,340	1,780	1,530	696
6	3,170	2,520	3,910	7,900	3,760	16,000	7,340	5,130	2,390	1,850	1,390	676
7	2,650	2,800	3,760	7,110	22,300	17,600	6,240	4,550	2,550	1,410	1,210	665
8	2,210	2,960	3,550	6,250	16,200	14,200	5,780	4,320	2,260	1,310	1,110	1,320
9	2,090	2,820	3,360	5,600	10,600	11,300	6,280	3,990	2,060	1,270	1,060	21,500
10	1,990	2,670	3,300	4,980	8,620	9,640	5,650	3,650	1,930	1,130	996	12,100
11	1,910	2,600	18,000	4,250	8,520	8,500	4,920	3,170	1,880	1,070	891	6,950
12	2,180	7,230	21,700	e3,800	8,140	7,180	5,160	2,900	4,850	1,340	855	5,550
13	2,310	13,000	12,900	e3,400	7,650	5,940	18,700	2,850	6,710	2,030	1,110	4,540
14	1,780	12,400	9,820	e3,000	7,620	5,190	34,900	3,080	5,230	1,660	1,220	2,990
15	2,800	9,600	8,510	e2,700	7,190	4,750	22,700	3,050	3,710	1,400	1,530	2,320
16	3,170	7,920	7,280	e2,500	6,400	4,550	14,100	3,190	3,510	1,240	1,760	2,220
17	3,210	6,920	6,570	e2,300	5,790	4,710	10,200	3,300	3,490	1,130	982	2,110
18	2,960	5,980	7,030	e2,100	4,630	5,000	8,340	3,520	3,800	1,080	890	13,900
19	2,850	8,230	6,660	e1,900	4,190	7,450	7,100	6,150	3,380	1,210	849	10,800
20	2,640	34,600	5,800	e1,800	5,590	8,470	6,160	5,800	3,270	1,170	882	6,800
21	2,470	21,000	5,120	e1,750	8,920	10,700	5,570	5,000	2,840	1,070	1,030	4,730
22	2,360	13,200	4,700	e1,700	12,200	12,800	5,080	6,070	2,460	1,040	1,050	3,500
23	2,290	10,300	5,920	e1,650	9,270	10,300	4,790	5,900	2,140	1,160	1,000	2,900
24	2,200	8,580	10,200	e1,600	8,100	8,580	4,270	4,770	2,000	1,330	877	2,510
25	2,100	7,760	13,800	e1,580	7,310	7,170	4,180	3,760	1,850	1,190	852	2,290
26	2,000	6,690	11,300	e1,550	6,590	6,290	10,100	3,360	2,030	1,060	822	2,150
27	2,300	5,900	9,210	e1,530	5,860	5,630	16,500	3,180	1,900	1,240	792	2,010
28	3,810	5,520	7,850	e1,500	5,540	5,080	11,700	3,250	1,680	1,870	764	4,000
29	3,670	5,640	6,950	e1,460	5,520	4,550	8,640	5,160	1,510	1,550	747	19,600
30	3,510	5,650	6,200	e1,450	---	4,200	6,920	5,330	1,390	1,320	924	11,800
31	3,160	---	5,760	e1,440	---	4,160	---	4,080	---	3,560	1,020	---
TOTAL	85,910	225,300	231,060	104,290	204,890	260,620	292,300	137,940	85,290	43,730	40,683	153,637
MEAN	2,771	7,510	7,454	3,364	7,065	8,407	9,743	4,450	2,843	1,411	1,312	5,121
MAX	4,650	34,600	21,700	7,900	22,300	17,600	34,900	6,670	6,710	3,560	5,780	21,500
MIN	1,780	2,320	3,300	1,440	1,420	4,160	4,180	2,850	1,390	1,040	747	665
CFSM	0.89	2.40	2.38	1.08	2.26	2.69	3.11	1.42	0.91	0.45	0.42	1.64
IN.	1.02	2.68	2.75	1.24	2.44	3.10	3.48	1.64	1.01	0.52	0.48	1.83

e Estimated

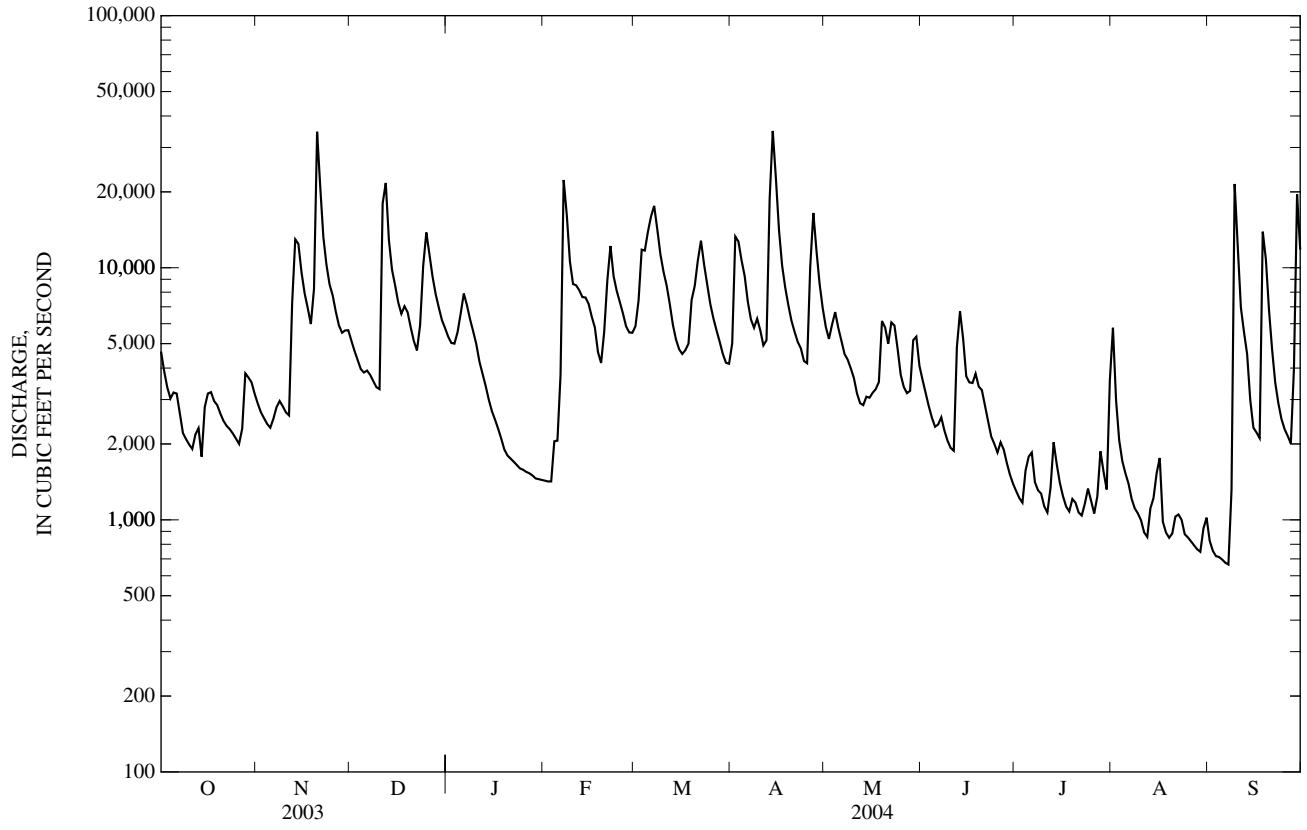
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2004, BY WATER YEAR (WY)

MEAN	1,511	2,121	3,330	3,946	5,303	7,521	6,095	4,567	2,660	1,372	1,282	1,314
MAX	9,709	17,180	12,300	13,040	14,040	17,440	15,620	11,210	10,510	5,071	6,775	12,080
(WY)	(1977)	(1986)	(1973)	(1996)	(1998)	(1994)	(1993)	(1996)	(2003)	(1949)	(1996)	(1996)
MIN	261	327	388	679	853	2,043	1,882	1,074	544	303	278	252
(WY)	(1952)	(1966)	(1966)	(1981)	(2002)	(1990)	(1995)	(1941)	(1965)	(1966)	(1944)	(1959)

01610000 POTOMAC RIVER AT PAW PAW, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1939 - 2004	
ANNUAL TOTAL	2,562,700		1,865,650			
ANNUAL MEAN	7,021		5,097		3,409	
HIGHEST ANNUAL MEAN					6,556	2003
LOWEST ANNUAL MEAN					1,499	1969
HIGHEST DAILY MEAN	48,500	Sep 20	34,900	Apr 14	125,000	Nov 6, 1985
LOWEST DAILY MEAN	1,030	Aug 26	665	Sep 7	172	(a)
ANNUAL SEVEN-DAY MINIMUM	1,180	Aug 23	721	Sep 1	179	Sep 7, 1966
MAXIMUM PEAK FLOW			42,000	Nov 20	(b)235,000	Nov 5, 1985
MAXIMUM PEAK STAGE			22.80	Nov 20	53.58	Nov 5, 1985
INSTANTANEOUS LOW FLOW			665	(c)	164	(d)
ANNUAL RUNOFF (CFSM)	2.24		1.63		1.09	
ANNUAL RUNOFF (INCHES)	30.47		22.18		14.80	
10 PERCENT EXCEEDS	15,600		10,700		7,790	
50 PERCENT EXCEEDS	4,840		3,740		1,820	
90 PERCENT EXCEEDS	1,750		1,170		452	

a Sept. 10, 12, 13, 1966.
b From rating curve extended above 85,000 ft^3/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, WV.
c Sept. 6-8.
d Sept 10, 11, 1966.



DAILY MEAN DISCHARGE - 2004 WATER YEAR

01610400 WAITES RUN NEAR WARDENSVILLE, WV

LOCATION.--Lat 39°02'33.8", long 78°35'54.0", Hardy County, 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 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1240.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for estimated daily discharges (missing record), which are poor. U.S. Geological Survey gage-height telemeter at station.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 19	1315	615	5.40	Apr 26	1030	248	4.77
Dec 11	0130	385	5.06	May 16	2145	185	4.57
Feb 6	1515	146	4.38	Sep 8	1900	*1,160	*5.94
Apr 12	2115	176	4.52	Sep 18	0530	286	4.86
Apr 26	0400	226	4.71	Sep 28	1400	419	5.12

Minimum discharge, 1.1 ft^3/s, Sept. 4, 5.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	16	28	22	e6.4	19	24	38	12	4.5	3.2	1.3
2	15	15	25	20	e6.4	22	36	46	10	4.4	2.5	1.2
3	14	14	23	19	e6.2	23	41	48	10	3.9	2.1	1.3
4	13	14	21	18	e6.0	24	38	38	9.3	5.9	1.9	1.2
5	12	14	21	17	5.9	24	34	34	31	9.8	1.8	1.2
6	11	16	20	16	54	38	31	31	17	6.5	1.8	1.9
7	10	16	18	14	56	36	29	36	14	4.5	1.6	2.0
8	9.6	14	17	e13	31	35	27	38	12	4.1	1.6	249
9	9.1	13	17	e12	25	32	25	32	10	3.5	1.5	102
10	8.7	13	26	e12	23	29	22	29	9.7	3.4	1.4	33
11	8.5	13	173	e12	22	26	20	25	18	3.5	1.4	21
12	8.2	34	67	e12	20	24	64	22	26	3.5	5.4	16
13	7.8	31	47	e11	20	21	111	19	15	4.1	9.7	13
14	21	27	42	e10	19	19	83	22	14	3.2	2.7	11
15	27	24	35	e10	18	18	62	24	19	2.8	2.3	10
16	16	22	32	e10	e16	19	50	52	20	2.6	2.1	8.7
17	15	20	44	e9.8	e14	19	43	77	16	2.5	2.0	28
18	15	18	35	e9.4	e14	21	37	47	15	2.8	1.9	147
19	13	142	30	e9.2	e16	35	33	43	13	2.7	1.8	59
20	12	91	27	e9.0	e17	27	30	35	12	2.4	1.8	39
21	12	56	24	e8.8	40	29	28	32	10	2.2	3.2	29
22	12	43	24	e8.8	35	25	24	28	9.9	2.5	2.6	23
23	11	35	30	e8.6	30	24	24	24	9.4	2.7	2.0	18
24	10	36	60	e8.4	29	23	22	20	8.1	2.3	1.7	16
25	9.8	34	54	e8.0	26	22	20	18	7.3	2.2	1.6	14
26	9.8	29	44	e7.8	22	20	150	21	6.9	2.8	1.6	12
27	23	27	37	e7.6	20	19	99	17	5.9	2.6	1.5	11
28	25	36	32	e7.2	19	18	66	18	5.3	2.5	1.5	144
29	21	35	29	e7.0	19	17	52	15	5.1	2.1	1.4	108
30	18	31	27	e6.8	---	16	44	13	4.7	1.9	1.5	63
31	17	---	24	e6.6	---	17	---	13	---	2.0	1.4	---
TOTAL	431.5	929	1,133	351.0	635.9	741	1,369	955	375.6	106.4	70.5	1,184.8
MEAN	13.9	31.0	36.5	11.3	21.9	23.9	45.6	30.8	12.5	3.43	2.27	39.5
MAX	27	142	173	22	56	38	150	77	31	9.8	9.7	249
MIN	7.8	13	17	6.6	5.9	16	20	13	4.7	1.9	1.4	1.2
CFSM	1.10	2.46	2.90	0.90	1.74	1.90	3.62	2.44	0.99	0.27	0.18	3.13
IN.	1.27	2.74	3.35	1.04	1.88	2.19	4.04	2.82	1.11	0.31	0.21	3.50

e Estimated

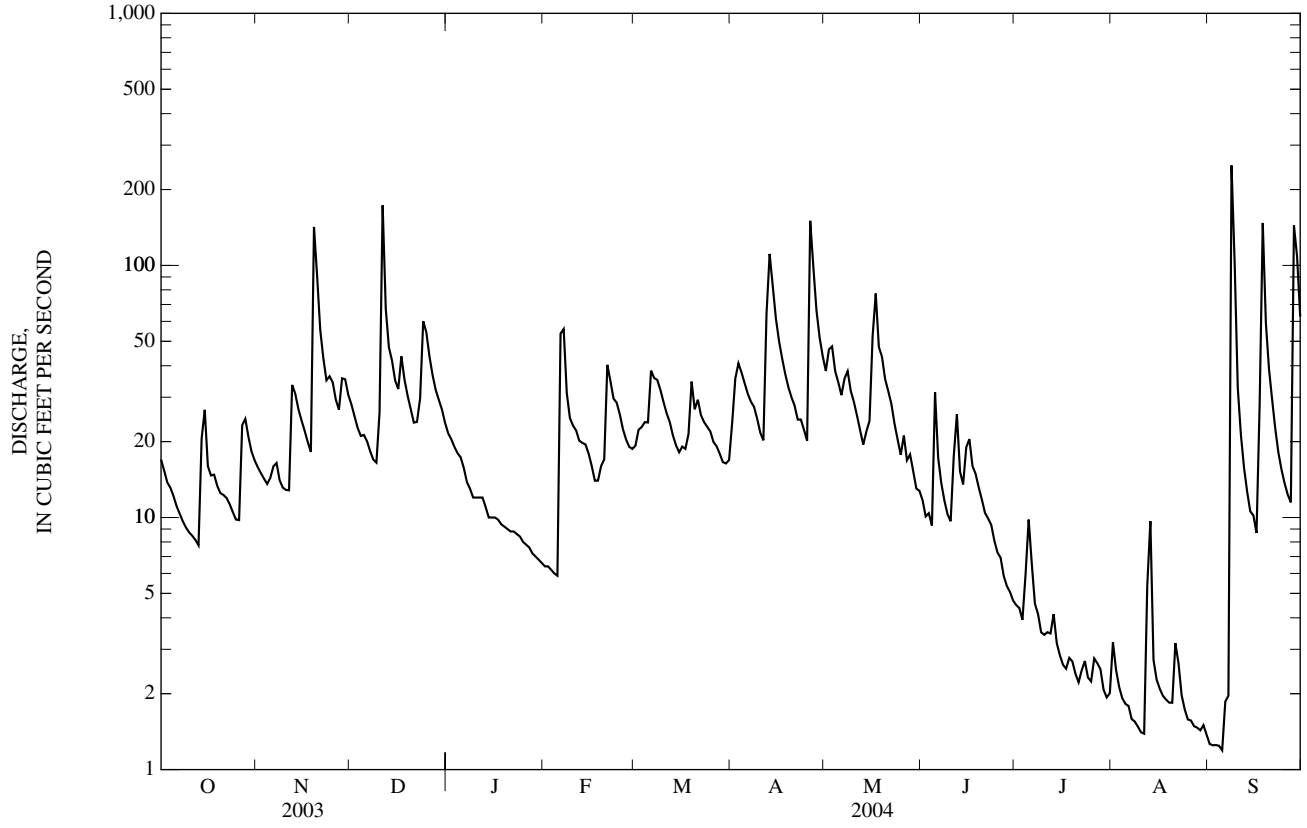
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)

MEAN	11.2	30.4	30.4	19.0	16.2	30.9	40.2	30.8	21.3	5.85	4.91	31.0
MAX	13.9	31.0	36.5	26.7	22.6	55.8	45.6	33.9	44.1	7.58	9.21	48.3
(WY)	(2004)	(2004)	(2004)	(2003)	(2003)	(2003)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)
MIN	8.43	29.8	24.4	11.3	3.79	13.0	30.8	27.7	7.26	3.43	2.27	5.32
(WY)	(2003)	(2003)	(2003)	(2004)	(2002)	(2002)	(2002)	(2002)	(2002)	(2004)	(2004)	(2002)

01610400 WAITES RUN NEAR WARDENSVILLE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2002 - 2004	
ANNUAL TOTAL	11,353.9		8,282.7			
ANNUAL MEAN	31.1		22.6		26.1	
HIGHEST ANNUAL MEAN					29.5	2003
LOWEST ANNUAL MEAN					22.6	2004
HIGHEST DAILY MEAN	679	Sep 19	249	Sep 8	679	Sep 19, 2003
LOWEST DAILY MEAN	3.4	Jul 27	1.2	(a)	(e)0.78	Sep 14, 2002
ANNUAL SEVEN-DAY MINIMUM	4.1	Jul 21	1.3	Aug 30	1.0	Sep 12, 2002
MAXIMUM PEAK FLOW			1,160	Sep 8	(b)1,380	Sep 19, 2003
MAXIMUM PEAK STAGE			5.94	Sep 8	6.09	Sep 19, 2003
INSTANTANEOUS LOW FLOW			1.1	(c)		
ANNUAL RUNOFF (CFSM)	2.47		1.80		2.07	
ANNUAL RUNOFF (INCHES)	33.52		24.45		28.11	
10 PERCENT EXCEEDS	66		43		54	
50 PERCENT EXCEEDS	20		17		18	
90 PERCENT EXCEEDS	5.2		2.3		3.8	

a Sept. 2, 4, 5.
e Estimated.
b From rating curve extended above 420 ft^3/s.
c Sept. 4, 5.



DAILY MEAN DISCHARGE - 2004 WATER YEAR

01610400 WAITES RUN NEAR WARDENSVILLE, WV—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2001 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 2002 to current year.
WATER TEMPERATURE: January 2002 to current year.

INSTRUMENTATION.--Water-quality monitor January 2002 to current year.

REMARKS.--Missing record due to instrument malfunction. Records good.

EXTREMES FOR PERIOD OF DAILY RECORD--
SPECIFIC CONDUCTANCE: Maximum, 109 microsiemens/cm, Sept. 10, 2002; minimum, 23 microsiemens/cm, Feb. 22, 2003.
WATER TEMPERATURE: Maximum, 24.5°C, July 3, 2002; minimum, 0.0°C, on many day during winter periods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Sample type	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
NOV												
03...	1200	Environmental	1028	80020	14	40	734	9.2	89	7.0	45	27.0
JAN												
05...	1200	Environmental	1028	80020	17	40	722	10.4	88	6.9	34	9.0
MAR												
01...	1045	Environmental	1028	80020	18	40	733	13.3	104	6.8	38	14.0
APR												
05...	1045	Environmental	1028	80020	34	40	731	13.5	105	5.8	31	3.5
MAY												
03...	1130	Environmental	1028	80020	46	40	735	9.1	87	6.8	33	12.5
JUN												
01...	1045	Environmental	1028	80020	12	40	725	9.1	96	6.9	46	22.0
JUL												
06...	*1142*	*Blank*	*1028*	*80020*	--	--	--	--	--	--	--	--
06...	1215	Environmental	1028	80020	6.0	40	731	6.7	77	7.6	63	29.0
06...	*1216*	*Replicate*	*1028*	*80020*	--	*40*	--	--	--	--	--	--
SEP												
02...	1000	Environmental	1028	80020	1.2	40	736	9.1	99	7.9	125	20.5

Date	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, wat unf by analysis, mg/L (62855)	Total carbon, suspnd sedimnt total, mg/L (00694)
NOV													
03...	13.5	12	14	.76	4.8	<.04	.07	<.008	<.02	<.006	.005	.15	.1
JAN													
05...	8.0	11	14	.67	4.8	<.04	.19	<.008	<.02	<.006	.004	.22	.2
MAR													
01...	3.5	11	14	.64	4.8	<.04	.28	E.004	<.02	<.006	.004	.30	<.1
APR													
05...	3.0	9	11	.68	5.1	<.04	.45	<.008	<.02	<.006	E.003	.43	<.1
MAY													
03...	11.5	8	10	.62	4.7	<.04	.28	<.008	<.02	<.006	.008	.39	.2
JUN													
01...	15.5	15	18	.58	4.1	<.04	.17	<.008	<.02	<.006	.011	.24	.1
JUL													
06...	--	--	--	--	--	--	--	--	*<.02*	--	--	--	*<.1*
06...	20.0	22	27	.75	4.7	<.04	.17	<.008	<.02	<.006	.010	.28	.4
06...	--	--	--	*.64*	*4.6*	--	--	--	*.02*	--	--	--	*.3*
SEP													
02...	17.5	53	65	.74	5.0	<.04	E.06	<.008	<.02	E.003	.007	.12	.2

Agency Collecting Sample: 1028 - U.S. Geological Survey
Agency Analyzing Sample: 80020 - USGS-National Water Quality Lab, Denver, CO

01610400 WAITES RUN NEAR WARDENSVILLE, WV—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV					
03...	<.1	.1	1.4	2	.08
JAN					
05...	<.1	.2	1.5	2	.09
MAR					
01...	<.1	<.1	1.1	1	.05
APR					
05...	<.1	<.1	1.1	1	.09
MAY					
03...	<.1	.2	2.3	3	.37
JUN					
01...	<.1	.1	1.1	2	.06
JUL					
06...	*<.1*	*<.1*	--	*1*	--
06...	<.1	.4	2.1	3	.05
06...	*<.1*	*.3*	--	--	--
SEP					
02...	<.1	.2	.8	6	.02

Remark codes used in this table:
< -- Less than
E -- Estimated value

01611500 CACAPON RIVER NEAR GREAT CACAPON, WV

LOCATION.--Lat 39°34'56", long 78°18'36", NAD 27, Morgan County, Hydrologic Unit 02070003, on left bank at Rock Ford, 3.0 mi southwest of Great Cacapon, and at mile 6.1.

DRAINAGE AREA.--675 mi^2.

PERIOD OF RECORD.--December 1922 to September 1995, October 1996 to current year.

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 NGVD 29 (U.S. Army Corps of Engineers bench mark). Prior to Nov. 10, 1933, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for periods of estimated daily discharges (ice effect, no gage-height record), which are poor. High end of rating not confirmed above 3,000 ft^3/s since cableway removed in July 1992.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1889 reached a stage of about 24.7 ft, from floodmarks, discharge, 57,500 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 20	1000	9,160	10.25	Apr 14	1230	8,780	10.04
Dec 11	1800	*14,000	*12.54	Apr 27	0230	10,800	11.07
Dec 25	0530	3,990	6.88	Sep 9	1330	9,980	10.68
Feb 7	1100	11,400	11.39	Sep 18	2130	6,370	8.61
Apr 2	1930	4,000	6.89	Sep 29	1000	9,150	10.24

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	652	619	1,500	920	411	1,090	802	1,470	632	217	442	86
2	570	546	1,240	831	374	1,240	3,280	1,270	596	207	266	86
3	497	496	1,020	791	e360	1,450	3,540	2,220	511	201	297	85
4	439	457	873	760	e350	1,280	2,650	2,590	439	202	235	84
5	414	433	814	733	411	1,200	2,010	1,860	461	294	195	82
6	389	433	820	720	656	1,230	1,620	1,530	1,010	933	175	82
7	358	456	786	655	5,410	1,660	1,330	1,260	779	562	156	82
8	329	520	718	561	3,600	1,590	1,140	1,150	586	390	146	148
9	303	479	660	499	2,080	1,430	1,050	1,150	477	301	139	4,160
10	285	428	640	494	1,670	1,220	945	913	411	252	136	2,170
11	268	400	7,350	410	1,530	1,050	813	783	378	223	131	e1,020
12	254	730	6,130	465	1,530	921	803	696	1,200	216	129	e634
13	243	2,550	2,920	504	1,380	828	5,210	629	1,880	226	153	e451
14	242	1,950	2,100	481	1,270	735	7,440	599	1,490	223	167	e363
15	350	1,510	1,830	449	1,240	668	4,020	636	982	214	213	e315
16	898	1,160	1,560	433	1,070	635	2,350	899	1,190	199	203	e271
17	636	931	1,380	385	859	648	1,830	1,020	1,040	183	170	535
18	516	770	1,650	426	786	729	1,540	1,360	751	175	149	3,160
19	488	760	1,620	498	738	801	1,300	1,910	644	172	139	3,540
20	443	5,690	1,400	538	983	1,230	1,120	2,140	546	166	133	1,690
21	397	3,280	1,190	472	2,150	1,370	1,040	1,640	467	161	135	1,080
22	369	2,060	1,020	432	3,190	1,490	983	2,140	417	159	129	758
23	346	1,630	1,080	e390	2,170	1,280	865	1,590	379	162	125	580
24	331	1,350	2,170	e360	1,850	1,090	821	1,140	357	167	118	467
25	313	1,310	3,580	e340	1,700	961	886	853	331	169	113	394
26	293	1,290	2,440	e330	1,500	855	2,990	704	304	168	106	346
27	363	1,060	1,880	e430	1,260	767	8,050	716	278	172	103	312
28	1,070	971	1,580	556	1,120	707	3,530	889	269	171	99	565
29	1,320	1,460	1,340	525	1,050	652	2,210	924	249	157	96	6,260
30	980	1,750	1,190	470	---	596	1,760	908	230	152	93	3,060
31	755	---	1,070	440	---	583	---	706	---	151	89	---
TOTAL	15,111	37,479	55,551	16,298	42,698	31,986	67,928	38,295	19,284	7,345	4,980	32,866
MEAN	487	1,249	1,792	526	1,472	1,032	2,264	1,235	643	237	161	1,096
MAX	1,320	5,690	7,350	920	5,410	1,660	8,050	2,590	1,880	933	442	6,260
MIN	242	400	640	330	350	583	802	599	230	151	89	82
CFSM	0.72	1.85	2.65	0.78	2.18	1.53	3.35	1.83	0.95	0.35	0.24	1.62
IN.	0.83	2.07	3.06	0.90	2.35	1.76	3.74	2.11	1.06	0.40	0.27	1.81

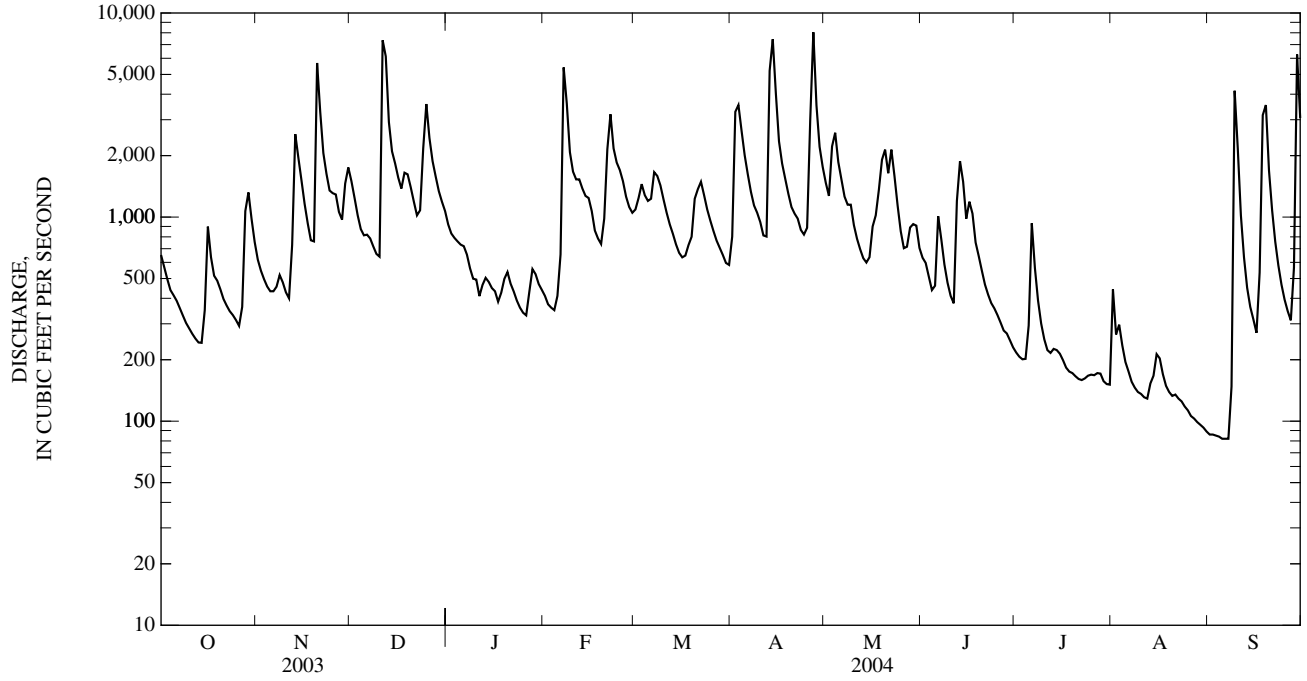
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2004, BY WATER YEAR (WY)

MEAN	325	378	529	636	890	1,286	1,132	866	441	194	233	205
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	247	242	157	72.5	53.8	39.8	39.4
(WY)	(1931)	(1966)	(1966)	(1956)	(1934)	(1990)	(1947)	(1969)	(1999)	(1999)	(1966)	(1932)

01611500 CACAPON RIVER NEAR GREAT CACAPON, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1923 - 2004	
ANNUAL TOTAL	481,707		369,821			
ANNUAL MEAN	1,320		1,010		595	
HIGHEST ANNUAL MEAN					1,192	2003
LOWEST ANNUAL MEAN					180	1969
HIGHEST DAILY MEAN	14,900	Sep 20	8,050	Apr 27	67,900	Mar 18, 1936
LOWEST DAILY MEAN	147	Sep 1	82	(a)	26	Sep 12, 1966
ANNUAL SEVEN-DAY MINIMUM	154	Aug 27	84	Sep 1	28	Sep 7, 1966
MAXIMUM PEAK FLOW			14,000	Dec 11	(b)87,600	Mar 18, 1936
MAXIMUM PEAK STAGE			12.54	Dec 11	30.10	Mar 18, 1936
INSTANTANEOUS LOW FLOW			80	Sep 5	26	(c)
ANNUAL RUNOFF (CFSM)	1.96		1.50		0.881	
ANNUAL RUNOFF (INCHES)	26.55		20.38		11.97	
10 PERCENT EXCEEDS	2,610		2,090		1,370	
50 PERCENT EXCEEDS	814		705		247	
90 PERCENT EXCEEDS	216		167		68	

a Sept. 5-7.
b From rating curve extended above 52,000 ft^3/s.
c Sept. 11-13, 1966.
e Estimated.



01613000 POTOMAC RIVER AT HANCOCK, MD

LOCATION.--Lat 39°41'51.2", long 78°10'40.4", Washington County, Hydrologic Unit 02070004, on left bank, 0.2 mi downstream from Little Tonoloway Creek, 0.5 mi downstream from bridge on U.S. Highway 522 at Hancock, 1.1 mi upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek), and at mile 239. DRAINAGE AREA.--4,090 mi^2.

PERIOD OF RECORD.--October 1932 to current year. Gage-height records collected at same site since June 1925 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 781: 1933(M). WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 383.68 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1932, to Jan. 5, 1935, Mar. 18, 1936, to Jan. 20, 1937, nonrecording gage, on former highway bridge just upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. Slight regulation at low flow from power plants upstream. Low flow affected slightly by Stony River Reservoir prior to July 1981, since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers satellite collection platform at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1932, about 40 ft in May 1889, discharge, about 220,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 20	2230	*45,100	*18.97	Apr 27	0730	26,400	14.17
Dec 12	0000	40,200	17.80	Sep 9	2230	32,800	15.93
Feb 7	1030	37,300	17.09	Sep 18	0630	37,100	17.03
Apr 14	1630	42,200	18.30	Sep 29	2000	29,400	15.02

Minimum discharge, 606 ft^3/s, Sept. 7, 8.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5,960	3,610	6,590	6,110	e1,750	6,760	5,090	7,190	4,100	1,280	6,760	878
2	4,690	3,240	5,830	5,650	e1,700	8,100	17,100	6,310	3,730	1,200	4,960	740
3	3,990	2,990	5,240	5,470	e1,700	12,700	18,200	7,230	3,230	1,140	2,850	684
4	3,510	2,790	4,780	5,660	e1,700	13,100	14,200	8,950	2,850	1,100	2,020	652
5	3,240	2,650	4,470	6,610	e2,100	13,800	11,700	7,550	2,750	1,690	1,640	639
6	3,470	2,670	4,500	8,000	7,950	15,700	9,260	6,490	3,010	2,290	1,420	625
7	3,190	2,920	4,410	7,950	24,900	18,500	7,540	5,680	3,050	2,000	1,260	613
8	2,490	3,280	4,130	6,880	22,600	16,400	6,730	5,190	2,790	1,510	1,100	1,100
9	2,210	3,250	3,890	6,240	13,600	12,900	6,620	4,940	2,400	1,350	1,010	23,800
10	2,060	3,030	3,720	5,410	10,200	10,700	6,610	4,330	2,120	1,240	956	19,700
11	1,940	2,860	21,100	4,770	9,230	9,250	5,640	3,910	2,010	1,110	898	9,000
12	1,830	5,070	32,700	e4,500	9,220	8,130	5,290	3,430	3,300	1,220	812	6,510
13	2,270	15,200	18,000	e4,400	8,510	6,790	17,100	3,200	8,180	1,890	858	5,270
14	2,070	14,200	12,500	e3,900	8,220	5,910	37,900	3,240	6,810	2,020	1,070	4,180
15	2,150	11,400	10,400	e3,200	8,050	5,310	30,500	3,520	5,170	1,560	1,120	2,690
16	3,770	9,080	8,860	e2,900	7,240	5,010	17,600	3,890	4,340	1,300	1,620	2,430
17	3,770	7,750	7,740	e2,700	6,450	4,970	12,500	3,930	4,050	1,160	1,420	3,770
18	3,410	6,780	7,810	e2,500	5,750	5,220	9,770	4,300	4,280	1,060	916	28,800
19	3,200	6,610	8,070	e2,400	4,750	6,560	8,200	7,680	4,010	1,030	836	18,800
20	2,990	31,900	7,140	e2,250	5,490	9,170	7,140	9,070	3,660	1,120	824	10,100
21	2,730	30,400	6,230	e2,150	9,060	10,400	6,430	7,100	3,270	1,080	1,020	6,880
22	2,560	16,500	5,580	e2,050	15,200	13,400	5,880	7,630	2,830	996	1,040	4,990
23	2,410	12,200	5,740	e2,000	12,300	11,900	5,450	7,360	2,410	1,020	1,010	3,940
24	2,310	9,800	10,600	e2,000	10,000	9,530	5,070	6,300	2,130	1,210	929	3,270
25	2,190	8,670	17,700	e1,950	9,030	8,100	4,750	4,830	1,960	1,210	822	2,820
26	2,070	7,890	14,800	e1,900	8,070	6,980	9,150	4,230	1,890	1,110	790	2,580
27	2,320	6,750	11,400	e1,900	7,150	6,260	24,200	3,840	1,930	1,060	757	2,340
28	4,430	6,240	9,440	e1,850	6,610	5,670	16,800	3,800	1,740	1,340	737	3,800
29	5,380	6,600	8,150	e1,800	6,460	5,080	11,400	4,340	1,520	1,640	710	20,400
30	4,710	7,160	7,290	e1,800	---	4,650	8,780	6,090	1,390	1,310	693	18,500
31	4,090	---	6,650	e1,750	---	4,470	---	5,060	---	2,050	833	---
TOTAL	97,410	253,490	285,460	118,650	244,990	281,420	352,600	170,610	96,910	42,296	43,691	210,501
MEAN	3,142	8,450	9,208	3,827	8,448	9,078	11,750	5,504	3,230	1,364	1,409	7,017
MAX	5,960	31,900	32,700	8,000	24,900	18,500	37,900	9,070	8,180	2,290	6,760	28,800
MIN	1,830	2,650	3,720	1,750	1,700	4,470	4,750	3,200	1,390	996	693	613
CFSM	0.77	2.07	2.25	0.94	2.07	2.22	2.87	1.35	0.79	0.33	0.34	1.72
IN.	0.89	2.31	2.60	1.08	2.23	2.56	3.21	1.55	0.88	0.38	0.40	1.91

e Estimated

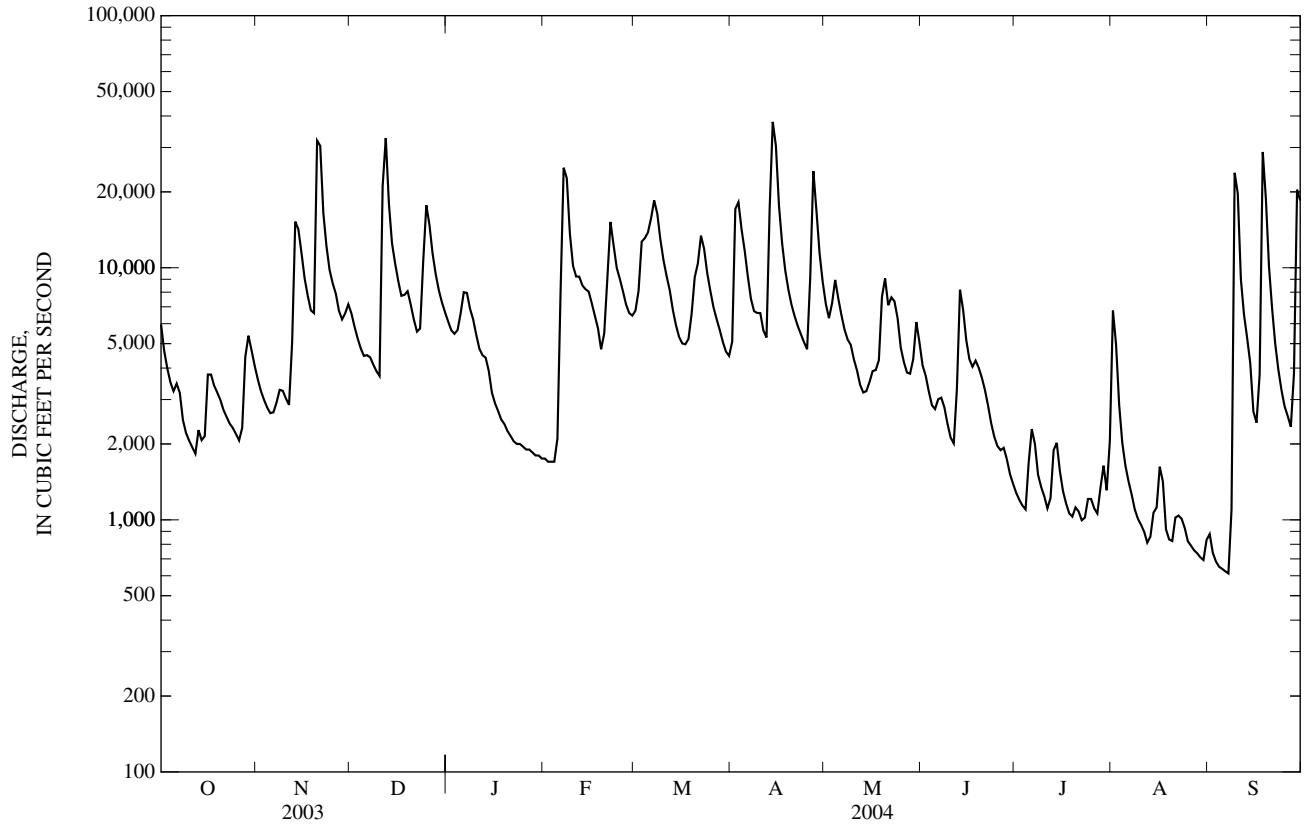
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2004, BY WATER YEAR (WY)

MEAN	1,988	2,584	4,022	5,054	6,532	9,368	7,699	5,589	3,199	1,586	1,600	1,620
MAX	13,270	20,090	15,160	17,180	17,560	32,280	19,170	13,260	13,390	6,677	9,479	15,100
(WY)	(1977)	(1986)	(1973)	(1996)	(1998)	(1936)	(1993)	(1988)	(1972)	(1949)	(1955)	(1996)
MIN	309	399	463	751	955	2,311	2,286	1,344	622	357	342	329
(WY)	(1942)	(1966)	(1966)	(1956)	(2002)	(1990)	(1995)	(1941)	(1969)	(1966)	(1944)	(1946)

01613000 POTOMAC RIVER AT HANCOCK, MD—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1933 - 2004	
ANNUAL TOTAL	3,003,890		2,198,028			
ANNUAL MEAN	8,230		6,006		4,225	
HIGHEST ANNUAL MEAN					7,932	1996
LOWEST ANNUAL MEAN					1,770	1969
HIGHEST DAILY MEAN	70,000	Sep 20	37,900	Apr 14	261,000	Mar 18, 1936
LOWEST DAILY MEAN	1,070	Aug 25	613	Sep 7	184	Oct 3, 1932
ANNUAL SEVEN-DAY MINIMUM	1,190	Aug 24	690	Sep 1	215	Sep 7, 1966
MAXIMUM PEAK FLOW			45,100	Nov 20	(a)340,000	Mar 18, 1936
MAXIMUM PEAK STAGE			18.97	Nov 20	47.60	Mar 18, 1936
INSTANTANEOUS LOW FLOW			606	(b)	180	Oct 4, 1932
ANNUAL RUNOFF (CFSM)	2.01		1.47		1.03	
ANNUAL RUNOFF (INCHES)	27.32		19.99		14.03	
10 PERCENT EXCEEDS	18,900		12,800		9,670	
50 PERCENT EXCEEDS	5,740		4,420		2,190	
90 PERCENT EXCEEDS	1,840		1,110		546	

a From rating curve extended above 120,000 ft^3/s on basis of slope-area measurement of peak flow.
b Sept. 7, 8.



DAILY MEAN DISCHARGE - 2004 WATER YEAR

01613020 UNNAMED TRIBUTARY TO WARM SPRINGS RUN NEAR BERKELEY SPRINGS, WV
(Detention Reservoir)

LOCATION.-- Lat 39°36'21.2" long 78°13'45.2", NAD 83, Morgan County, Hydrologic Unit 02070004

DAM NAME.--Warm Springs # 3

SURFACE AREA.--1+ acres

DRAINAGE AREA.--0.46 mi^2.

PERIOD OF RECORD.--September 2004 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 689.05 ft above NGVD 29.

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

Top of Riser = 61.50 ft

Emergency Spillway = 63.55 ft

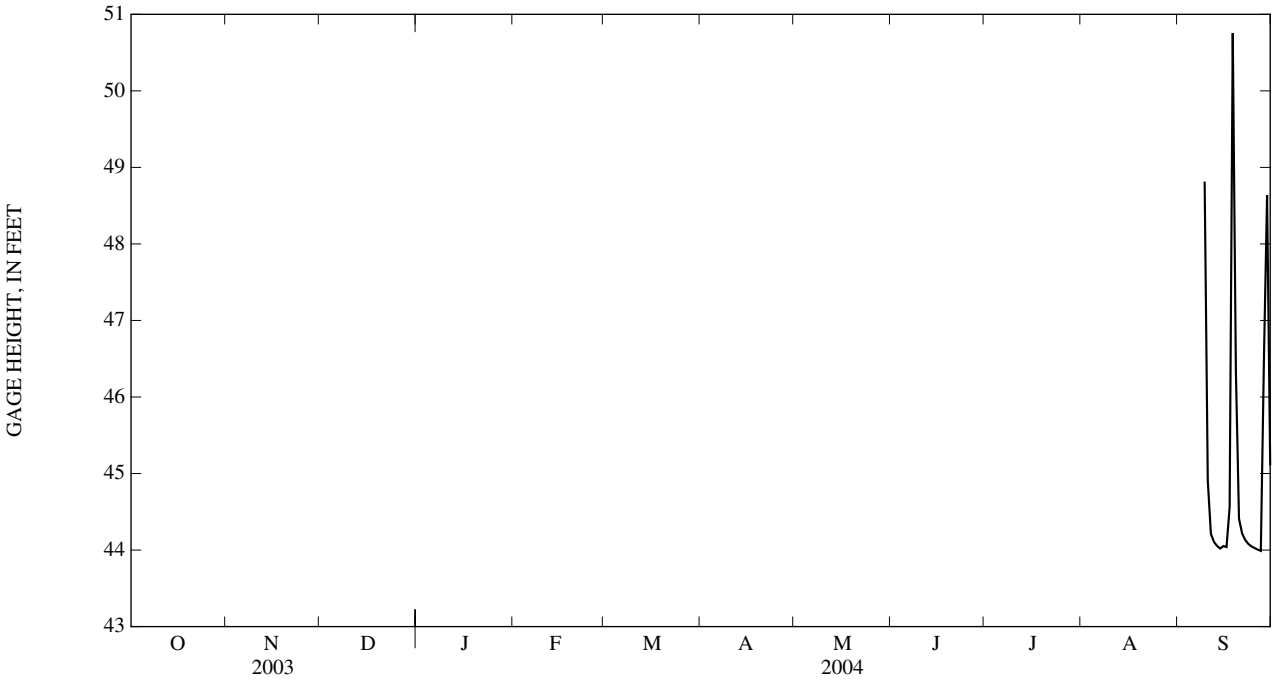
Top of Dam = 70.45 ft

EXTREMES FOR SEPTEMBER 2004 (PARTIAL).--Maximum gage height, 51.94 ft, Sept. 18; minimum gage height, 43.85 ft, Sept. 8.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	48.81
10	---	---	---	---	---	---	---	---	---	---	---	44.91
11	---	---	---	---	---	---	---	---	---	---	---	44.21
12	---	---	---	---	---	---	---	---	---	---	---	44.11
13	---	---	---	---	---	---	---	---	---	---	---	44.05
14	---	---	---	---	---	---	---	---	---	---	---	44.02
15	---	---	---	---	---	---	---	---	---	---	---	44.05
16	---	---	---	---	---	---	---	---	---	---	---	44.04
17	---	---	---	---	---	---	---	---	---	---	---	44.56
18	---	---	---	---	---	---	---	---	---	---	---	50.75
19	---	---	---	---	---	---	---	---	---	---	---	46.34
20	---	---	---	---	---	---	---	---	---	---	---	44.41
21	---	---	---	---	---	---	---	---	---	---	---	44.22
22	---	---	---	---	---	---	---	---	---	---	---	44.13
23	---	---	---	---	---	---	---	---	---	---	---	44.08
24	---	---	---	---	---	---	---	---	---	---	---	44.05
25	---	---	---	---	---	---	---	---	---	---	---	44.03
26	---	---	---	---	---	---	---	---	---	---	---	44.01
27	---	---	---	---	---	---	---	---	---	---	---	43.99
28	---	---	---	---	---	---	---	---	---	---	---	46.51
29	---	---	---	---	---	---	---	---	---	---	---	48.64
30	---	---	---	---	---	---	---	---	---	---	---	45.11
31	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

01613020 UNNAMED TRIBUTARY TO WARM SPRINGS RUN NEAR BERKELEY SPRINGS, WV—Continued



01616500 OPEQUON CREEK NEAR MARTINSBURG, WV

LOCATION.--Lat 39°25'25", long 77°56'20", NAD 27, Berkeley County, 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 mi^2.

PERIOD OF RECORD.--May 1905 to July 1906, July 1947 to current year.

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 354.89 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.--Records fair. 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 57.4 mi^2.

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 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 20	1130	2,980	10.45	Apr 27	0200	2,080	9.07
Dec 12	0000	6,170	12.71	Jul 19	0000	1,930	8.77
Feb 7	0800	3,020	10.49	Sep 18	2030	4,140	11.43
Apr 13	1500	2,710	10.13	Sep 29	1530	*6,980	*13.21

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	273	243	405	367	179	401	309	404	313	187	267	103
2	259	222	347	363	176	397	768	388	293	188	196	101
3	240	207	311	361	185	383	840	494	270	188	163	100
4	242	200	292	343	233	367	636	399	254	182	148	99
5	238	195	299	335	240	361	473	352	804	217	139	98
6	223	243	310	332	823	500	396	327	756	217	134	97
7	213	260	302	304	2,300	651	359	307	464	200	129	101
8	205	236	286	285	1,100	506	333	386	365	202	125	126
9	199	208	281	280	715	428	322	330	321	180	125	778
10	193	195	312	267	586	387	298	293	294	167	123	338
11	188	190	4,080	245	716	357	284	289	294	162	120	187
12	185	402	2,920	253	661	339	360	263	652	174	151	153
13	179	624	823	251	619	314	2,100	246	466	242	358	138
14	193	380	675	248	664	298	1,770	260	397	225	216	129
15	483	300	630	243	557	292	911	326	356	183	160	129
16	325	262	582	229	475	288	642	354	519	166	141	128
17	252	240	565	214	416	302	531	425	377	159	132	171
18	241	226	629	232	388	286	459	329	321	564	127	2,620
19	228	563	534	240	417	337	413	655	292	779	125	1,170
20	208	2,090	474	218	713	337	382	651	264	302	122	426
21	200	720	425	201	914	334	370	479	248	218	127	315
22	195	492	404	205	845	305	351	840	239	191	128	262
23	189	402	528	196	649	282	336	509	238	248	122	226
24	183	363	961	200	590	269	475	408	230	256	118	205
25	177	483	1,030	194	571	261	361	368	219	193	114	189
26	175	406	677	186	500	255	995	364	228	181	111	180
27	213	352	556	222	456	250	1,470	340	214	173	109	171
28	306	367	485	206	426	241	718	371	204	166	111	1,130
29	311	703	445	186	406	230	533	330	199	153	108	5,690
30	328	493	425	183	---	224	451	295	191	145	107	1,010
31	273	---	388	174	---	236	---	286	---	142	105	---
TOTAL	7,317	12,267	21,381	7,763	17,520	10,418	18,646	12,068	10,282	6,950	4,461	16,570
MEAN	236	409	690	250	604	336	622	389	343	224	144	552
MAX	483	2,090	4,080	367	2,300	651	2,100	840	804	779	358	5,690
MIN	175	190	281	174	176	224	284	246	191	142	105	97
CFSM	0.86	1.50	2.53	0.92	2.21	1.23	2.28	1.43	1.26	0.82	0.53	2.02
IN.	1.00	1.67	2.91	1.06	2.39	1.42	2.54	1.64	1.40	0.95	0.61	2.26

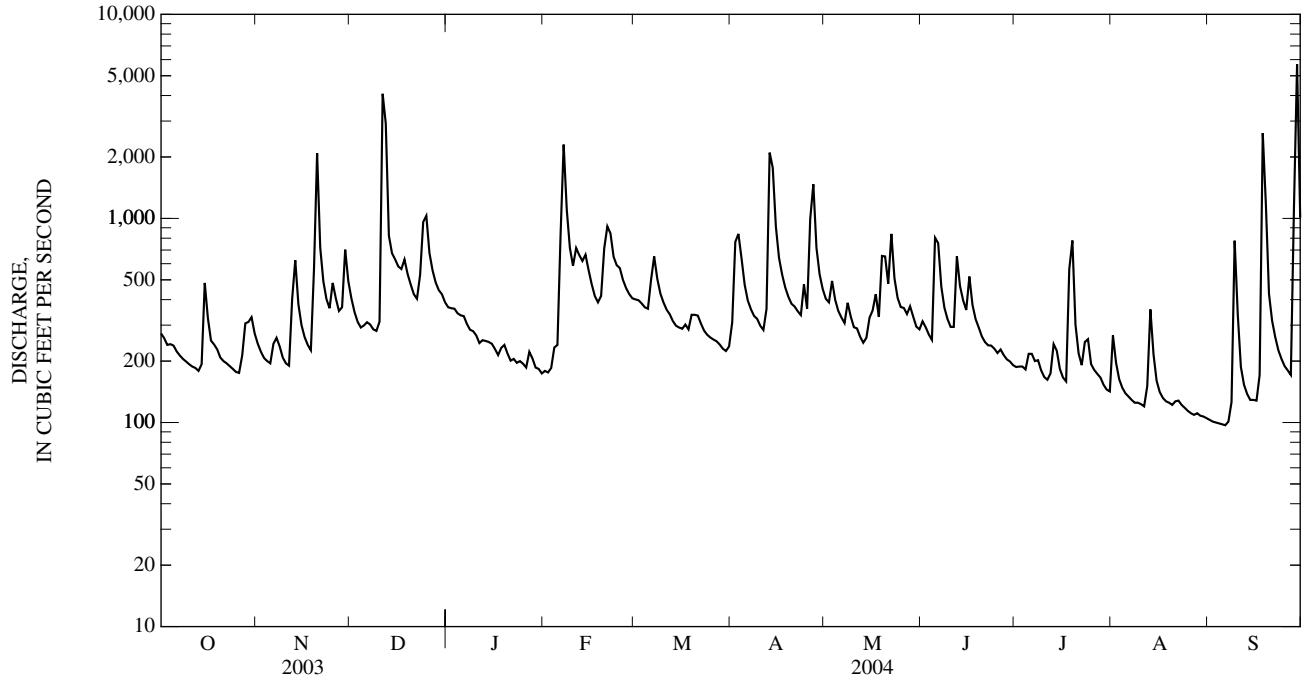
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2004, BY WATER YEAR (WY)

MEAN	150	177	247	284	348	454	380	281	223	143	138	142
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)

01616500 OPEQUON CREEK NEAR MARTINSBURG, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1947 - 2004	
ANNUAL TOTAL	189,510		145,643			
ANNUAL MEAN	519		398		247	
HIGHEST ANNUAL MEAN					581	1996
LOWEST ANNUAL MEAN					85.7	1954
HIGHEST DAILY MEAN	4,740	Jun 22	5,690	Sep 29	(e)15,000	Jan 20, 1996
LOWEST DAILY MEAN	146	Aug 25	97	Sep 6	26	Oct 25, 1947
ANNUAL SEVEN-DAY MINIMUM	159	Aug 21	100	Sep 1	27	Sep 7, 1966
MAXIMUM PEAK FLOW			6,980	Sep 29	(a)23,400	Jan 20, 1996
MAXIMUM PEAK STAGE			13.21	Sep 29	18.76	Jan 20, 1996
INSTANTANEOUS LOW FLOW			93	Sep 6	25	Oct 25, 1947
ANNUAL RUNOFF (CFSM)	1.90		1.46		0.904	
ANNUAL RUNOFF (INCHES)	25.82		19.85		12.29	
10 PERCENT EXCEEDS	1,000		667		489	
50 PERCENT EXCEEDS	365		292		142	
90 PERCENT EXCEEDS	183		144		57	

a From rating curve extended above 7,100 ft^3/s.
e Estimated.



01636500 SHENANDOAH RIVER AT MILLVILLE, WV

LOCATION.--Lat 39°16'55", long 77°47'22", NAD 27, Jefferson County, 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.--3,022 mi^2.

PERIOD OF RECORD.--April 1895 to March 1909, August 1928 to current year.

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

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 293.00 ft above NGVD 29. Apr. 15, 1895, to Mar. 31, 1909, nonrecording gage at site 0.8 mi downstream at datum 0.32 ft higher.

REMARKS.--Records good except those for periods of estimated daily discharges (doubtful or no gage-height record), which are poor. 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 practically same stage as flood of Mar. 18, 1936, 26.36 ft, discharge, 151,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 21	0500	26,300	10.87	Sep 10	1400	17,600	8.91
Dec 12	0830	31,100	11.83	Sep 19	0830	15,100	8.24
Feb 8	0200	18,700	9.17	Sep 30	0630	*44,500	*14.15
Apr 15	0630	20,400	9.59				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e5,000	2,410	e4,800	4,700	2,410	3,450	2,710	4,200	2,670	1,310	1,060	720
2	e4,600	2,270	4,660	4,430	2,670	3,360	3,460	3,930	2,430	1,270	997	795
3	e4,200	2,220	4,320	4,210	2,470	3,220	4,730	5,260	2,290	1,230	959	709
4	e3,800	2,130	3,990	4,020	2,490	3,160	4,530	4,960	2,130	1,260	990	683
5	e3,550	2,100	3,890	3,850	2,650	3,130	4,060	4,760	3,540	1,510	1,050	681
6	e3,350	2,270	3,910	3,740	3,410	3,470	3,640	4,340	3,580	2,250	1,070	669
7	e3,150	2,320	3,820	3,560	10,000	4,270	3,340	3,970	3,390	2,970	961	640
8	e3,000	3,390	3,640	3,390	16,700	4,280	3,100	4,380	3,330	2,100	906	755
9	e2,850	4,090	3,440	3,210	11,200	4,200	2,990	3,930	2,690	1,650	1,020	1,850
10	e2,700	3,440	3,400	3,090	8,080	4,060	2,890	3,560	2,350	1,430	897	15,800
11	e2,550	3,010	16,200	2,910	7,400	3,830	2,770	3,190	2,140	1,370	945	9,920
12	e2,500	2,810	28,200	2,840	7,310	3,590	2,720	2,890	2,500	1,300	1,080	6,050
13	e2,450	3,160	17,400	2,850	6,720	3,370	6,580	2,730	2,850	1,310	987	4,330
14	e2,450	4,330	11,900	2,830	6,220	3,150	16,300	2,580	2,780	1,330	1,020	3,270
15	e2,900	6,100	9,670	2,770	5,940	3,000	19,000	2,400	2,730	1,690	956	2,630
16	e3,500	5,030	8,330	2,690	5,470	2,850	13,400	2,420	2,640	1,630	1,110	2,180
17	e3,300	4,380	7,420	2,570	4,960	2,930	9,600	2,980	2,690	1,450	1,200	1,810
18	e2,900	3,960	8,240	2,550	4,560	3,140	7,530	3,190	2,880	1,320	1,030	7,520
19	e2,650	4,140	8,940	2,450	4,240	3,650	6,250	3,550	2,610	1,370	952	13,800
20	e2,500	11,200	7,720	2,510	4,220	3,730	5,380	3,660	2,220	1,360	965	9,980
21	e2,450	22,300	6,630	2,540	4,580	3,860	4,910	3,600	2,110	1,240	890	6,620
22	e2,350	13,300	5,890	2,350	5,460	3,910	4,490	3,830	1,920	1,250	852	4,830
23	e2,300	9,330	5,420	2,350	5,730	3,820	4,160	3,390	1,830	1,260	908	3,800
24	e2,250	7,310	5,740	2,240	5,220	3,620	3,980	3,010	1,760	1,250	853	3,060
25	2,140	6,710	7,360	2,180	4,860	3,360	3,750	2,850	1,700	1,100	834	2,510
26	2,070	5,980	8,450	1,840	4,520	3,190	3,680	2,630	1,670	1,160	820	2,190
27	2,160	5,220	7,670	1,880	4,180	3,020	6,300	2,380	1,600	1,250	782	1,950
28	2,350	e4,700	6,670	1,980	3,860	2,910	6,300	2,340	1,530	1,210	743	2,370
29	2,580	e4,610	5,960	2,360	3,650	2,790	5,260	2,430	1,470	1,110	759	24,300
30	2,760	e5,000	5,410	2,700	---	2,680	4,640	2,890	1,450	1,110	719	36,400
31	2,540	---	4,950	2,430	---	2,630	---	2,900	---	1,070	678	---
TOTAL	89,850	159,220	234,040	90,020	161,180	105,630	172,450	105,130	71,480	44,120	28,993	172,822
MEAN	2,898	5,307	7,550	2,904	5,558	3,407	5,748	3,391	2,383	1,423	935	5,761
MAX	5,000	22,300	28,200	4,700	16,700	4,280	19,000	5,260	3,580	2,970	1,200	36,400
MIN	2,070	2,100	3,400	1,840	2,410	2,630	2,710	2,340	1,450	1,070	678	640
CFSM	0.96	1.76	2.50	0.96	1.84	1.13	1.90	1.12	0.79	0.47	0.31	1.91
IN.	1.11	1.96	2.88	1.11	1.98	1.30	2.12	1.29	0.88	0.54	0.36	2.13

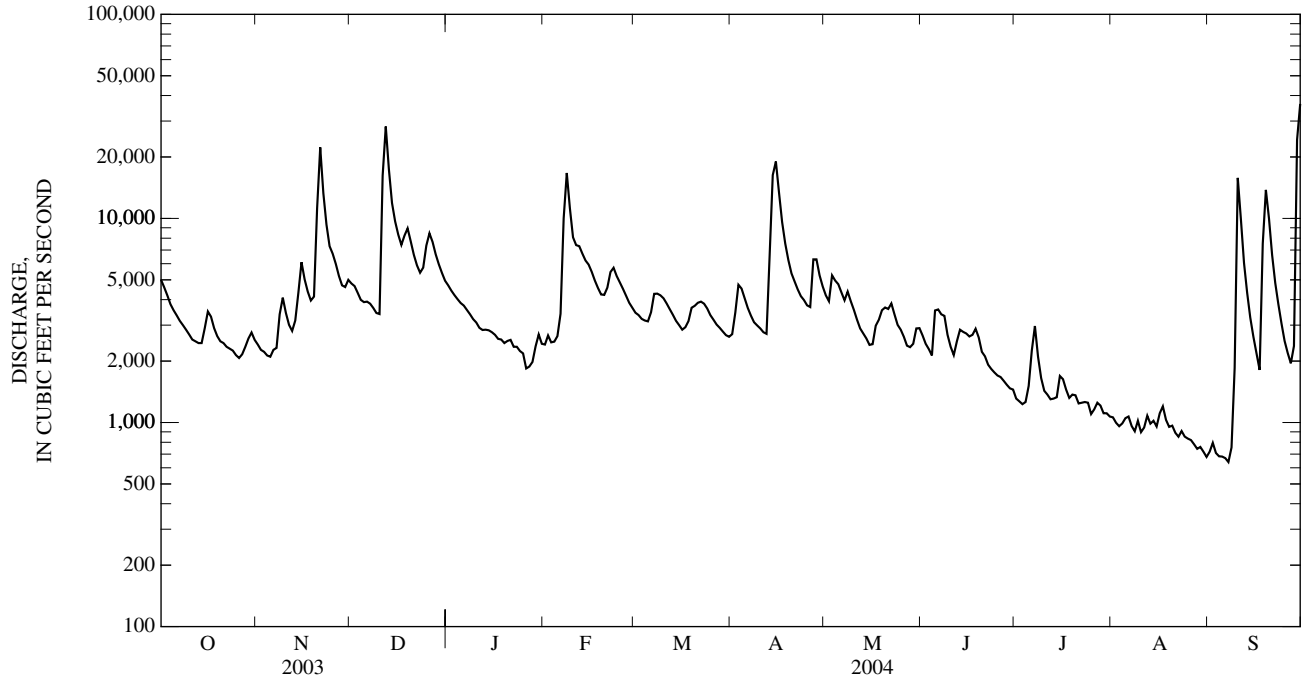
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 2004, BY WATER YEAR (WY)

MEAN	1,934	1,896	2,528	3,212	3,916	5,039	4,399	3,358	2,445	1,453	1,616	1,594
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)

01636500 SHENANDOAH RIVER AT MILLVILLE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1895 - 2004	
ANNUAL TOTAL	2,237,230		1,434,935			
ANNUAL MEAN	6,129		3,921		2,776	
HIGHEST ANNUAL MEAN					5,618	1996
LOWEST ANNUAL MEAN					927	2002
HIGHEST DAILY MEAN	60,600	Sep 20	36,400	Sep 30	192,000	Oct 16, 1942
LOWEST DAILY MEAN	1,350	Feb 18	640	Sep 7	194	Jul 24, 1930
ANNUAL SEVEN-DAY MINIMUM	1,400	Feb 12	700	Sep 1	240	Sep 7, 1966
MAXIMUM PEAK FLOW			44,500	Sep 30	230,000	Oct 16, 1942
MAXIMUM PEAK STAGE			14.15	Sep 30	(a)32.40	Oct 16, 1942
INSTANTANEOUS LOW FLOW			473	Sep 9	59	Oct 4, 1930
ANNUAL RUNOFF (CFSM)	2.03		1.30		0.919	
ANNUAL RUNOFF (INCHES)	27.54		17.66		12.48	
10 PERCENT EXCEEDS	12,600		6,900		5,630	
50 PERCENT EXCEEDS	4,490		3,000		1,620	
90 PERCENT EXCEEDS	1,840		1,070		610	

a From floodmarks.
e Estimated.



01638500 POTOMAC RIVER AT POINT OF ROCKS, MD

LOCATION.--Lat 39°16'24.9", long 77°32'35.2", Frederick County, Hydrologic Unit 02070008, on left bank at downstream side of bridge on U.S. Highway 15 at Point of Rocks, 0.3 mi downstream from Catoctin Creek (Virginia), 6 mi upstream from Monocacy River, and at mile 159.5.
DRAINAGE AREA.--9,651 mi^2.
PERIOD OF RECORD.--February 1895 to current year.
REVISED RECORDS.--WSP 192: 1895-1905. WSP 1432: 1899, 1901-2, 1904-5, 1912, 1914(M), 1915, 1917(M), 1918, 1919(M), 1920, 1921-23(M), 1924, 1925-28(M), 1930(M).
GAGE.--Water-stage recorder. Datum of gage is 200.63 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 28, 1929, nonrecording gage at same site. Prior to Sept. 2, 1902, at datum about 0.45 ft higher.
REMARKS.--Records good, except those for estimated daily discharges (erroneous or missing record, ice effect), which are fair. Low flow affected slightly from 1913 to July 1981 by Stony River Reservoir; since December 1950 by Savage River Reservoir (see station 01597500); and since July 1981 by Jennings Randolph Lake. Low flow affected extensively at times by run-of-the-river hydroelectric plants. National Weather Service gage-height telemeter at station. U.S. Geological Survey satellite collection platform at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 40.2 ft, from floodmarks, discharge, about 460,000 ft^3/s from rating curve extended as explained in footnotes.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 21	1145	83,200	15.40	Apr 15	0815	81,700	15.21
Dec 12	1515	*118,000	*19.58	Apr 27	2200	51,900	11.15
Dec 26	0300	38,500	9.08	Sep 10	1230	56,900	11.87
Feb 8	0800	57,300	11.93	Sep 19	0445	84,700	15.59
Apr 3	1100	39,500	9.24	Sep 30	0845	98,100	17.25

Minimum discharge, 1,960 ft^3/s, Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17,400	10,800	17,600	15,600	e5,500	14,900	10,200	19,500	11,100	4,800	3,720	2,300
2	14,700	9,670	15,900	e14,400	e5,400	15,700	16,100	17,200	9,730	4,580	12,200	2,400
3	12,300	8,840	e14,800	e13,700	5,670	19,200	37,500	19,900	8,970	4,410	10,000	2,400
4	10,900	8,400	e14,000	e13,000	6,500	24,800	32,900	21,500	8,170	4,040	6,540	2,030
5	9,990	7,890	13,200	13,400	6,380	23,700	26,100	20,800	14,900	3,910	5,080	2,070
6	9,230	8,000	12,900	15,100	10,600	25,600	21,700	17,900	14,800	4,160	4,420	2,030
7	8,960	8,490	12,400	16,700	21,000	30,000	18,000	16,000	12,900	6,450	3,900	2,000
8	8,390	9,050	11,700	15,600	51,100	31,600	15,400	14,900	11,400	e6,270	3,470	2,080
9	7,610	10,500	11,000	14,000	43,000	e27,400	14,700	14,000	9,780	4,880	3,240	3,610
10	7,050	9,950	10,600	12,900	29,400	e22,900	14,100	12,800	8,450	4,250	3,150	48,400
11	6,520	8,980	35,300	11,300	25,100	19,900	13,300	11,500	7,840	3,890	2,970	30,000
12	6,240	8,890	105,000	10,400	24,000	17,700	12,100	10,500	8,650	3,720	3,200	17,900
13	5,990	14,000	69,600	10,500	23,100	15,800	e23,000	9,530	11,000	3,980	2,980	13,000
14	6,130	24,700	41,400	10,400	20,100	14,100	62,000	8,900	15,500	5,930	3,540	10,200
15	7,820	25,100	32,300	9,780	19,100	12,500	77,800	9,000	15,000	5,850	3,500	8,460
16	8,430	20,800	27,400	9,040	18,000	11,500	53,300	9,810	13,500	5,340	3,380	6,600
17	9,850	17,300	24,000	8,120	16,000	11,100	36,600	10,600	11,600	4,330	3,640	5,710
18	9,420	15,200	22,900	7,310	14,800	11,100	28,300	10,800	10,900	3,690	3,800	26,100
19	8,580	16,100	23,300	e7,500	13,700	12,100	23,500	12,300	10,400	4,120	3,120	78,300
20	8,010	27,900	21,800	e7,350	12,900	14,400	20,200	19,600	9,320	4,420	2,750	41,300
21	7,600	75,200	19,100	7,210	15,600	17,600	17,800	19,100	8,580	3,550	2,690	23,900
22	7,210	49,700	16,800	6,880	24,200	19,600	16,300	17,000	7,980	3,580	3,860	17,100
23	6,740	33,000	15,400	e6,200	30,100	22,000	15,600	18,000	7,330	3,460	4,010	14,500
24	6,460	25,700	17,200	5,940	24,800	19,700	14,800	15,600	6,910	3,510	3,460	10,900
25	6,240	22,600	31,000	5,630	21,800	17,000	13,700	13,500	6,330	3,450	3,100	9,150
26	5,950	20,600	36,900	4,690	19,500	15,000	14,100	12,100	6,010	3,480	2,810	8,360
27	6,310	18,200	30,200	4,730	17,500	13,500	37,100	11,300	5,790	3,480	2,660	7,190
28	8,050	16,300	24,900	e5,100	15,700	12,400	43,900	10,200	5,630	3,440	2,530	11,300
29	15,000	17,200	21,500	e5,300	14,900	11,400	30,800	9,640	5,510	3,690	2,460	46,300
30	14,500	18,100	19,100	e5,600	---	10,400	23,500	10,200	5,090	3,860	2,420	85,600
31	12,500	---	17,200	e5,700	---	9,880	---	12,200	---	3,840	2,280	---
TOTAL	280,080	567,160	786,400	299,080	555,450	544,480	784,400	435,880	289,070	132,360	120,880	541,190
MEAN	9,035	18,910	25,370	9,648	19,150	17,560	26,150	14,060	9,636	4,270	3,899	18,040
MAX	17,400	75,200	105,000	16,700	51,100	31,600	77,800	21,500	15,500	6,450	12,200	85,600
MIN	5,950	7,890	10,600	4,690	5,400	9,880	10,200	8,900	5,090	3,440	2,280	2,000
CFSM	0.94	1.96	2.63	1.00	1.98	1.82	2.71	1.46	1.00	0.44	0.40	1.87
IN.	1.08	2.19	3.03	1.15	2.14	2.10	3.02	1.68	1.11	0.51	0.47	2.09

e Estimated

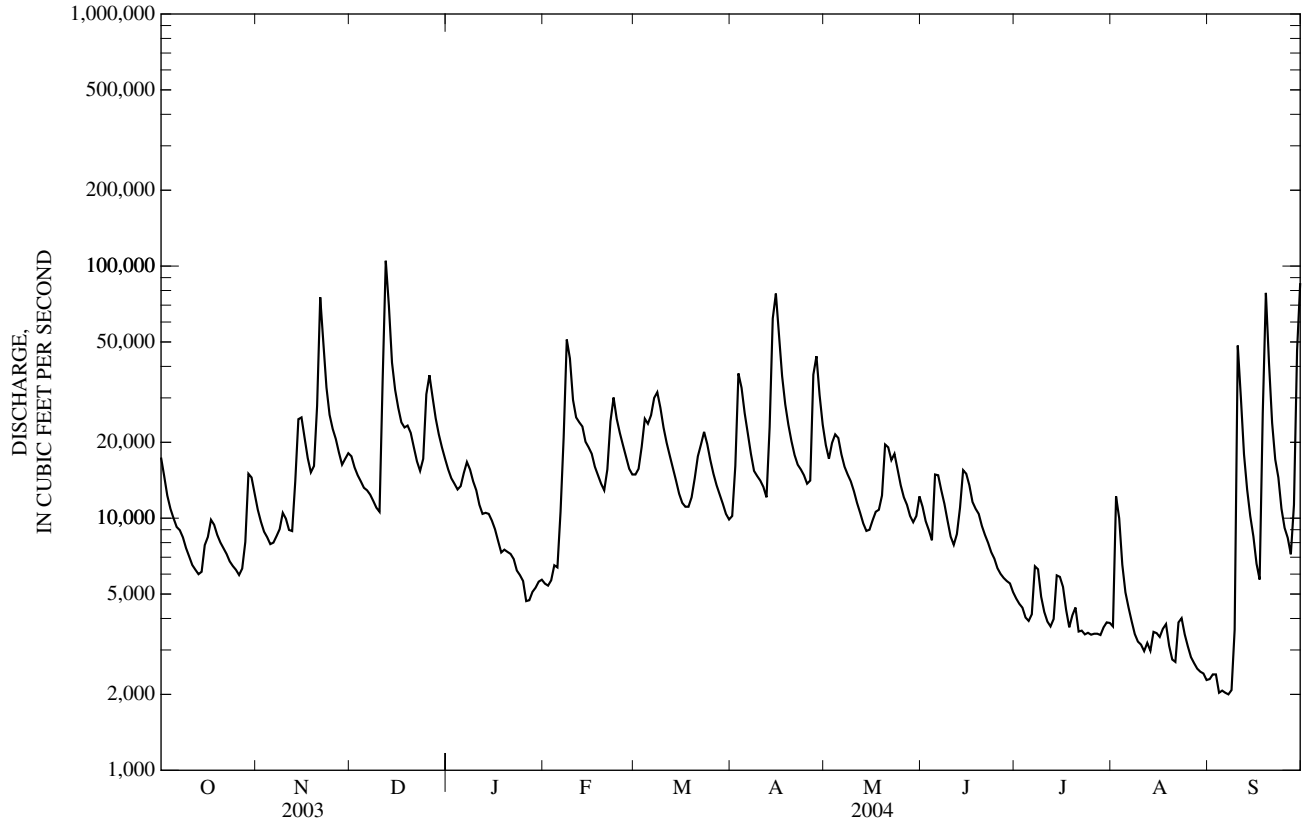
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 2004, BY WATER YEAR (WY)

MEAN	5,025	5,771	8,684	11,400	14,350	19,750	16,570	12,380	8,150	4,503	4,275	4,070
MAX	37,030	39,000	32,610	42,160	47,870	68,360	43,840	41,970	40,400	16,000	23,580	38,300
(WY)	(1943)	(1986)	(1973)	(1996)	(1998)	(1936)	(1993)	(1924)	(1972)	(1949)	(1955)	(1996)
MIN	706	840	1,253	1,703	1,982	5,400	4,368	3,276	1,932	1,056	771	834
(WY)	(1931)	(1931)	(1966)	(1981)	(2002)	(1931)	(1915)	(1930)	(1969)	(1966)	(1930)	(1930)

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1895 - 2004	
ANNUAL TOTAL	7,245,440		5,336,430			
ANNUAL MEAN	19,850		14,580		9,562	
HIGHEST ANNUAL MEAN					18,750	1996
LOWEST ANNUAL MEAN					4,015	2002
HIGHEST DAILY MEAN	112,000	Sep 21	105,000	Dec 12	434,000	Mar 19, 1936
LOWEST DAILY MEAN	2,040	Feb 18	2,000	Sep 7	540	Sep 10, 1914
ANNUAL SEVEN-DAY MINIMUM	3,190	Feb 13	2,140	Sep 2	593	Sep 6, 1966
MAXIMUM PEAK FLOW			118,000	Dec 12	(a)480,000	Mar 19, 1936
MAXIMUM PEAK STAGE			19.58	Dec 12	41.03	Mar 19, 1936
INSTANTANEOUS LOW FLOW			1,960	Sep 4	530	(b)
ANNUAL RUNOFF (CFSM)	2.06		1.51		0.991	
ANNUAL RUNOFF (INCHES)	27.93		20.57		13.46	
10 PERCENT EXCEEDS	42,300		26,500		21,000	
50 PERCENT EXCEEDS	14,800		11,400		5,410	
90 PERCENT EXCEEDS	4,910		3,600		1,680	

a From rating curve extended above 300,000 ft^3/s, on the basis of adjustment of figure of peak flow at station near Washington for inflow and storage, and slope-area measurement of peak flow.
b Sept. 11, 12, 1966.



DAILY MEAN DISCHARGE - 2004 WATER YEAR

03050000 TYGART VALLEY RIVER NEAR DAILEY, WV

LOCATION.--Lat 38°48'33", long 79°52'55", NAD 27, Randolph County, 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 mi^2.

PERIOD OF RECORD.--April 1915 to September 1975, October 1975 to October 1976 (gage heights only), July 1988 to current year. Prior to October 1960, published as Tygart River near Dailey.

REVISED RECORDS.--WSP 823: Drainage area. 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 1,940.09 ft above mean sea level, adjustment of 1912. 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.--Records good except those for periods of estimated daily discharges (ice effect, no gage-height record), which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 5, 1985, reached a stage of 16.6 ft, from floodmarks; discharge, about 22,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	1100	8,940	12.31	Apr 14	0600	5,580	10.60
Nov 20	0400	8,430	12.10	May 28	2100	9,410	12.50
Feb 6	2200	*9,670	*12.60				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	325	596	474	e125	225	541	304	533	39	59	11
2	138	278	517	652	e170	421	819	270	476	35	61	10
3	114	242	422	1,150	204	742	781	399	365	33	53	8.4
4	124	212	355	938	660	703	897	349	276	46	42	7.2
5	229	219	320	865	520	714	761	295	291	50	44	6.2
6	197	609	313	992	5,260	2,110	661	258	362	50	45	5.6
7	159	685	274	726	6,040	2,040	642	222	336	39	46	5.0
8	133	573	251	538	1,490	1,220	719	197	256	31	34	24
9	112	435	249	433	797	836	620	171	197	26	26	414
10	98	345	343	330	586	646	454	151	160	95	21	203
11	86	294	1,720	236	462	553	376	118	193	260	17	108
12	77	1,480	1,060	e210	386	504	385	107	399	126	18	78
13	70	6,400	657	e195	348	415	2,400	139	280	824	54	53
14	82	1,430	531	e180	323	345	4,370	177	202	297	58	39
15	858	729	448	e165	295	359	1,520	152	167	167	40	29
16	806	502	348	157	240	490	856	132	152	109	29	22
17	476	378	489	183	223	947	597	124	199	76	25	21
18	352	301	627	274	210	720	441	177	172	82	21	969
19	278	1,830	501	524	194	1,110	348	484	216	148	18	553
20	227	4,670	404	424	227	999	292	569	171	105	16	233
21	191	1,090	323	347	642	1,690	259	900	133	69	24	136
22	183	658	305	e300	669	1,250	221	2,510	118	52	36	87
23	177	467	604	260	462	774	194	901	134	53	40	60
24	150	380	2,210	e220	381	613	201	479	108	107	28	45
25	127	356	1,830	e195	329	527	181	321	86	66	20	36
26	113	293	856	e180	282	450	1,430	394	80	120	15	30
27	257	259	573	219	253	402	1,860	1,290	77	1,110	12	25
28	869	320	441	186	221	408	795	5,200	62	288	10	e200
29	604	725	383	e160	209	364	510	3,280	53	140	9.9	e1,400
30	479	624	515	e145	---	331	376	827	46	88	19	e500
31	388	---	586	e135	---	352	---	604	---	66	14	---
TOTAL	8,282	27,109	19,051	11,993	22,208	23,260	24,507	21,501	6,300	4,797	954.9	5,318.4
MEAN	267	904	615	387	766	750	817	694	210	155	30.8	177
MAX	869	6,400	2,210	1,150	6,040	2,110	4,370	5,200	533	1,110	61	1,400
MIN	70	212	249	135	125	225	181	107	46	26	9.9	5.0
CFSM	1.44	4.88	3.32	2.09	4.14	4.06	4.42	3.75	1.14	0.84	0.17	0.96
IN.	1.67	5.45	3.83	2.41	4.47	4.68	4.93	4.32	1.27	0.96	0.19	1.07

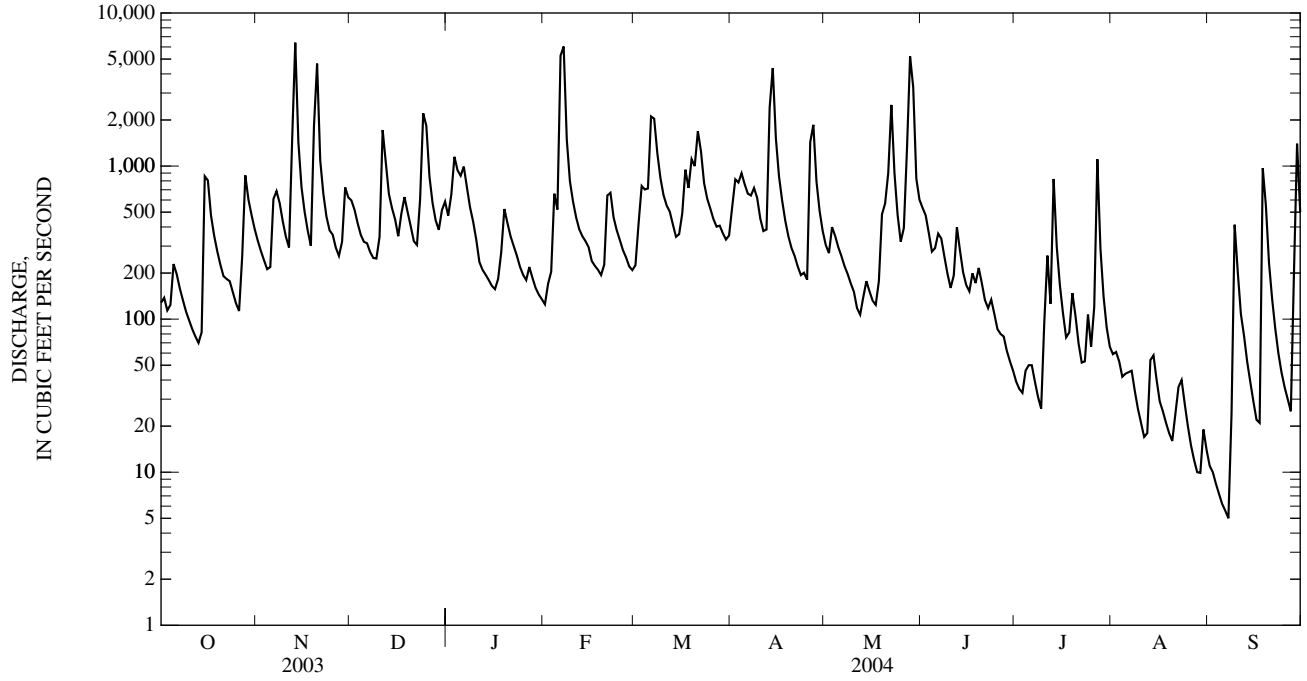
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2004, BY WATER YEAR (WY)

MEAN	123	245	444	549	597	718	523	454	240	162	157	91.9
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	304	155	65.7	13.2	6.72	0.50	0.19
(WY)	(1931)	(1931)	(1966)	(1940)	(1941)	(1957)	(1921)	(1930)	(1991)	(1930)	(1930)	(1930)

03050000 TYGART VALLEY RIVER NEAR DAILEY, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1915 - 2004	
ANNUAL TOTAL	214,000		175,281.3			
ANNUAL MEAN	586		479		358	
HIGHEST ANNUAL MEAN					611	1996
LOWEST ANNUAL MEAN					182	1941
HIGHEST DAILY MEAN	7,740	Feb 23	6,400	Nov 13	11,700	May 17, 1996
LOWEST DAILY MEAN	30	Aug 7	5.0	Sep 7	0.00	(a)
ANNUAL SEVEN-DAY MINIMUM	39	Aug 1	7.6	Sep 1	0.00	Sep 12, 1930
MAXIMUM PEAK FLOW			9,670	Feb 6	19,900	May 17, 1996
MAXIMUM PEAK STAGE			12.60	Feb 6	(b)17.20	Feb 4, 1932
INSTANTANEOUS LOW FLOW			4.7	(c)	0.00	(a)
ANNUAL RUNOFF (CFSM)	3.17		2.59		1.94	
ANNUAL RUNOFF (INCHES)	43.03		35.25		26.30	
10 PERCENT EXCEEDS	1,220		912		850	
50 PERCENT EXCEEDS	355		278		167	
90 PERCENT EXCEEDS	83		36		18	

a Sept. 12 to Nov. 30, 1930, Sept. 29 to Nov. 5, 1953.
b From floodmarks.
c Sept. 7, 8.
e Estimated.



03050500 TYGART VALLEY RIVER NEAR ELKINS, WV

LOCATION.--Lat 38°55'25", long 79°52'45", NAD 27, Randolph County, Hydrologic Unit 05020001, on left bank 1.4 mi upstream from Leading Creek, 1.5 mi west of Elkins, and at mile 79.5.

DRAINAGE AREA.--271 mi^2.

PERIOD OF RECORD.--October 1944 to current year. 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 1,893.95 ft above mean sea level, adjustment of 1912. 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.--Records good except those above 3,000 ft^3/s, which are fair, and those for periods of estimated daily discharges (ice effect), which are poor. Slight regulation at times by flood-diversion dam upstream from station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	2230	7,200	13.37	Apr 14	1500	5,900	12.12
Nov 20	1500	6,860	13.06	May 29	1000	7,200	13.37
Feb 7	0700	*8,860	*14.79				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	218	403	851	706	e160	287	753	433	767	56	212	57
2	239	339	742	822	201	448	1,310	382	633	37	136	46
3	206	290	604	1,520	285	916	1,270	558	511	50	119	26
4	210	253	502	1,290	779	900	1,500	545	379	59	97	25
5	299	306	458	1,220	715	1,030	1,220	444	341	79	93	26
6	296	841	445	1,550	4,740	3,130	986	374	406	106	90	20
7	240	1,050	398	1,090	8,300	3,450	966	315	408	106	73	14
8	195	828	356	764	3,440	1,850	1,080	283	316	66	63	24
9	162	599	342	625	1,200	1,250	921	236	243	52	60	414
10	141	455	452	463	840	943	686	202	196	117	51	342
11	124	378	2,090	306	688	803	554	175	362	452	44	159
12	113	1,960	1,660	e290	572	725	553	150	1,170	227	54	138
13	103	5,900	947	e265	513	604	2,580	156	594	1,290	60	89
14	121	3,670	743	e245	472	496	5,650	195	342	711	79	54
15	817	1,070	644	e235	431	462	2,900	189	265	327	78	87
16	1,100	724	494	e220	357	622	1,290	164	256	205	71	36
17	625	543	601	212	312	1,200	880	144	370	141	58	8.2
18	440	423	875	380	291	983	653	302	690	120	47	747
19	343	1,910	726	693	275	1,320	508	743	857	207	39	903
20	276	5,990	586	572	305	1,380	419	986	401	170	45	373
21	230	2,060	470	469	741	2,110	365	951	273	126	43	215
22	211	959	428	414	981	1,850	311	3,300	259	105	49	149
23	206	679	804	343	671	1,090	275	1,520	495	84	69	121
24	179	547	2,790	283	542	834	270	708	292	74	63	77
25	153	528	3,090	e250	468	709	334	459	212	103	54	61
26	138	438	1,290	234	396	610	1,690	451	191	121	41	58
27	201	382	833	291	353	538	2,830	1,430	151	1,630	33	52
28	985	561	619	e250	306	545	1,190	4,270	126	596	25	244
29	755	1,220	557	e220	278	501	749	6,030	110	290	21	1,760
30	612	936	704	e200	---	478	546	1,450	88	182	21	691
31	489	---	883	e180	---	477	---	846	---	195	32	---
TOTAL	10,427	36,242	26,984	16,602	29,612	32,541	35,239	28,391	11,704	8,084	2,020	7,016.2
MEAN	336	1,208	870	536	1,021	1,050	1,175	916	390	261	65.2	234
MAX	1,100	5,990	3,090	1,550	8,300	3,450	5,650	6,030	1,170	1,630	212	1,760
MIN	103	253	342	180	160	287	270	144	88	37	21	8.2
CFSM	1.24	4.46	3.21	1.98	3.77	3.87	4.33	3.38	1.44	0.96	0.24	0.86
IN.	1.43	4.97	3.70	2.28	4.06	4.47	4.84	3.90	1.61	1.11	0.28	0.96

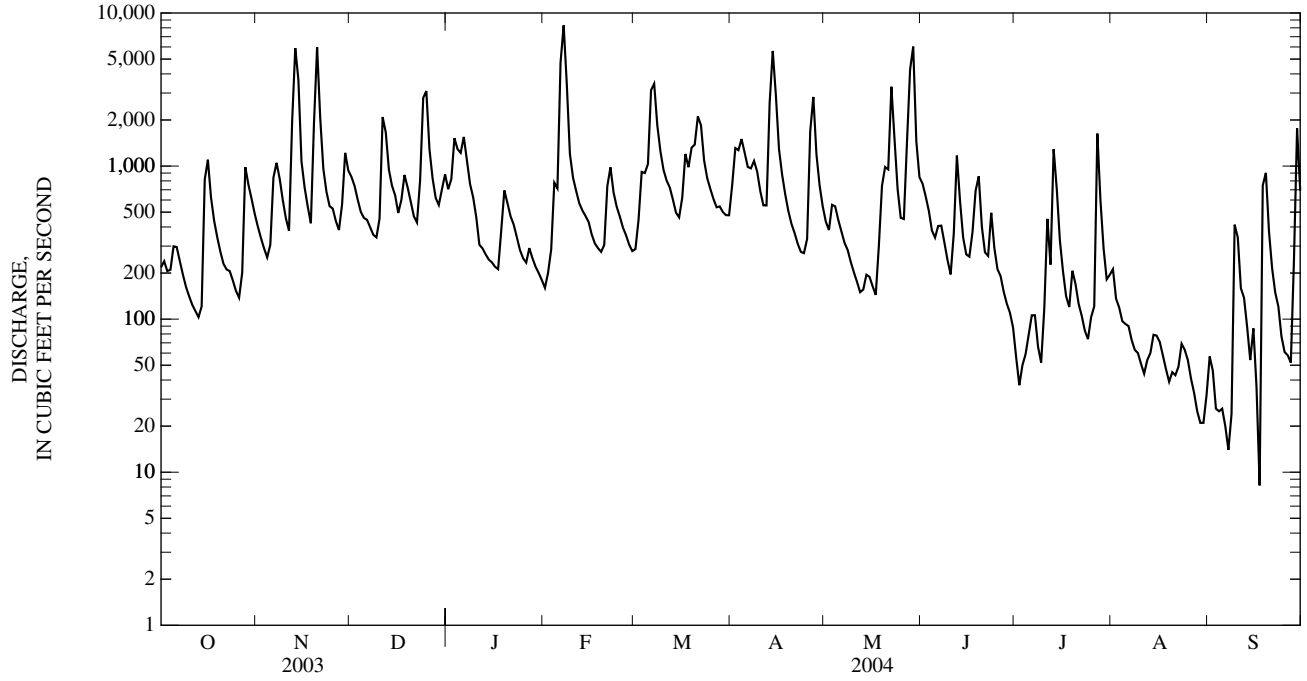
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2004, BY WATER YEAR (WY)

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)

03050500 TYGART VALLEY RIVER NEAR ELKINS, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1945 - 2004	
ANNUAL TOTAL	286,980		244,862.2			
ANNUAL MEAN	786		669		525	
HIGHEST ANNUAL MEAN					870	1996
LOWEST ANNUAL MEAN					312	1966
HIGHEST DAILY MEAN	7,450	Feb 23	8,300	Feb 7	16,000	Nov 5, 1985
LOWEST DAILY MEAN	44	Aug 27	8.2	Sep 17	(e)	(a)
ANNUAL SEVEN-DAY MINIMUM	80	Aug 1	26	Sep 2	0.10	Sep 20, 1959
MAXIMUM PEAK FLOW			8,860	Feb 7	(b)23,500	Nov 5, 1985
MAXIMUM PEAK STAGE			14.79	Feb 7	(c)22.81	Nov 5, 1985
INSTANTANEOUS LOW FLOW			6.6	Sep 17	(e)0.10	(a)
ANNUAL RUNOFF (CFSM)	2.90		2.47		1.94	
ANNUAL RUNOFF (INCHES)	39.39		33.61		26.33	
10 PERCENT EXCEEDS	1,800		1,310		1,230	
50 PERCENT EXCEEDS	465		402		249	
90 PERCENT EXCEEDS	119		61		26	

a Sept. 20-29, 1959.
b From rating curve extended above 13,800 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks.
e Estimated.



03051000 TYGART VALLEY RIVER AT BELINGTON, WV

LOCATION.--Lat 39°01'45", long 79°56'10", NAD 27, Barbour County, 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 mi^2, excluding that of Mill Creek.

PERIOD OF RECORD.--June 1907 to current year. Prior to October 1960, published as Tygart River at Belington.

REVISED RECORDS.--WSP 823: Drainage area. WSP 953: 1933(M), 1941(M). WSP 1335: 1912, 1914-15, 1916(M), 192l-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 1,679.49 ft above mean sea level, adjustment of 1912. Prior to Apr. 25, 1939, nonrecording gage at site 0.2 mi upstream at same datum.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect), which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1888, reached a stage of 21.7 ft, former site, from floodmarks, discharge, 21,200 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 14	0100	8,690	12.83	Mar 6	2200	7,600	11.99
Nov 20	1900	8,990	13.06	Apr 14	0700	8,930	13.01
Feb 7	0700	*14,700	*16.92	May 29	1300	9,520	13.45

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	454	622	1,500	1,280	e280	406	1,090	639	1,270	138	753	60
2	524	512	1,280	1,360	385	495	2,510	532	1,020	95	426	79
3	448	442	1,010	2,510	552	1,190	2,540	692	777	82	281	62
4	409	381	811	2,200	1,480	1,390	3,130	782	562	102	205	44
5	507	480	748	2,210	1,390	1,860	2,360	632	477	157	220	30
6	516	1,530	735	2,930	7,380	5,430	1,760	533	502	188	196	35
7	427	1,950	665	1,980	13,900	6,030	1,620	456	513	165	162	29
8	342	1,530	585	1,310	6,230	3,270	1,750	426	429	134	126	94
9	283	1,070	552	1,050	2,130	2,240	1,490	356	331	89	114	465
10	244	770	637	775	1,440	1,670	1,080	307	271	124	99	601
11	213	610	2,810	572	1,140	1,380	833	274	662	575	85	311
12	192	3,200	2,960	e510	920	1,200	808	259	3,350	411	75	199
13	176	7,830	1,670	e450	805	971	4,000	235	1,780	1,980	147	170
14	176	5,820	1,280	439	728	776	8,540	263	702	1,690	139	105
15	917	1,780	1,160	e400	653	686	5,010	282	492	611	131	103
16	1,640	1,150	868	378	546	875	2,280	255	405	384	116	96
17	983	829	922	569	475	2,070	1,490	229	1,290	263	103	66
18	672	633	1,370	764	447	1,700	1,060	262	2,300	213	85	747
19	513	2,870	1,220	1,330	419	1,910	791	1,030	2,910	218	70	1,490
20	414	8,330	967	1,060	448	2,210	631	1,740	1,080	258	61	590
21	351	3,900	765	814	941	3,350	547	1,310	624	190	136	333
22	313	1,640	680	705	1,560	3,130	470	4,330	456	158	284	231
23	302	1,100	1,150	563	1,040	1,880	417	2,660	818	148	174	185
24	281	838	4,120	460	808	1,350	417	1,150	602	147	131	151
25	247	819	5,020	419	703	1,080	416	677	409	136	108	103
26	220	677	2,290	392	585	899	1,770	598	337	134	87	94
27	265	581	1,430	487	518	778	4,260	1,830	278	1,790	68	86
28	1,090	881	1,040	e420	460	761	2,020	6,520	229	1,110	58	114
29	1,180	2,760	897	e370	414	693	1,190	8,690	198	501	67	1,860
30	978	1,840	1,230	350	---	643	831	2,820	169	344	43	1,000
31	784	---	1,700	e310	---	660	---	1,420	---	424	52	---
TOTAL	16,061	57,375	44,072	29,367	48,777	52,983	57,111	42,189	25,243	12,959	4,802	9,533
MEAN	518	1,912	1,422	947	1,682	1,709	1,904	1,361	841	418	155	318
MAX	1,640	8,330	5,020	2,930	13,900	6,030	8,540	8,690	3,350	1,980	753	1,860
MIN	176	381	552	310	280	406	416	229	169	82	43	29
CFSM	1.28	4.71	3.50	2.33	4.14	4.21	4.69	3.35	2.07	1.03	0.38	0.78
IN.	1.47	5.26	4.04	2.69	4.47	4.85	5.23	3.87	2.31	1.19	0.44	0.87

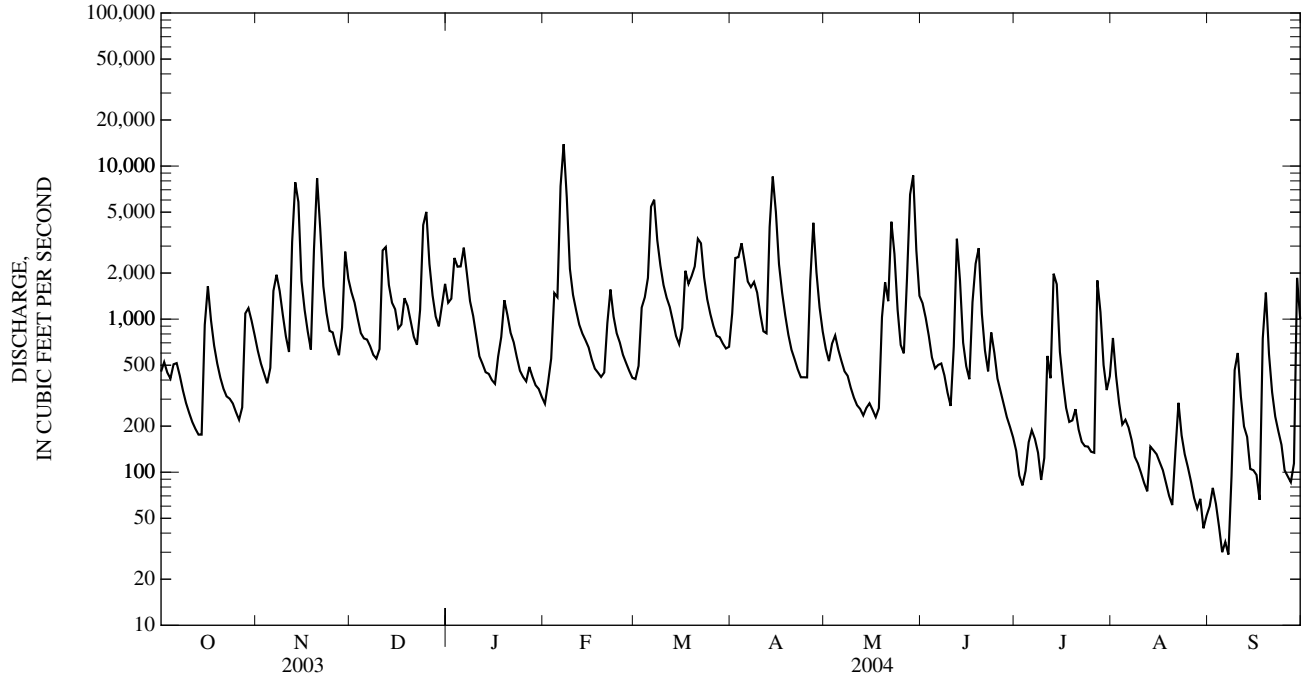
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1907 - 2004, BY WATER YEAR (WY)

MEAN	325	635	1,012	1,268	1,367	1,562	1,200	1,019	562	422	346	222
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)

03051000 TYGART VALLEY RIVER AT BELINGTON, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1907 - 2004	
ANNUAL TOTAL	449,018		400,472			
ANNUAL MEAN	1,230		1,094		825	
HIGHEST ANNUAL MEAN					1,375	1996
LOWEST ANNUAL MEAN					506	1966
HIGHEST DAILY MEAN	11,400	Feb 23	13,900	Feb 7	27,400	Nov 5, 1985
LOWEST DAILY MEAN	65	Jul 27	29	Sep 7	0.10	(a)
ANNUAL SEVEN-DAY MINIMUM	115	Jul 22	48	Sep 1	0.17	Sep 13, 1930
MAXIMUM PEAK FLOW			14,700	Feb 7	(b)29,500	Nov 5, 1985
MAXIMUM PEAK STAGE			16.92	Feb 7	(c)23.65	Nov 5, 1985
INSTANTANEOUS LOW FLOW			24	Sep 5	0.10	(a)
ANNUAL RUNOFF (CFSM)	3.03		2.70		2.03	
ANNUAL RUNOFF (INCHES)	41.14		36.69		27.60	
10 PERCENT EXCEEDS	2,830		2,320		1,990	
50 PERCENT EXCEEDS	748		628		406	
90 PERCENT EXCEEDS	182		122		46	

a Sept. 13-16, 1930.
b From rating curve extended above 18,700 ft^3/s.
c From floodmarks.
e Estimated.



03052000 MIDDLE FORK RIVER AT AUDRA, WV

LOCATION.--Lat 39°02'22", long 80°04'06", NAD 27, Barbour County, Hydrologic Unit 05020001, on right bank at Audra, 600 ft upstream from highway bridge, and at mile 2.9.

DRAINAGE AREA.--148 mi^2.

PERIOD OF RECORD.--February 1942 to September 1979, October 1988 to current year.

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 1,670 ft above NGVD 29, from topographic map.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect, no gage-height record), which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 5, 1985, reached a stage of 15.8 ft, from floodmarks, discharge, about 17,100 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	0300	4,230	8.16
Nov 19	1930	6,550	9.98
Feb 6	1530	*7,160	(a)*10.41
Mar 6	1300	4,380	8.29
Apr 13	2200	4,200	8.13
May 28	1000	6,590	10.01
Jul 27	0800	4,390	8.30

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	345	344	717	577	213	172	567	344	658	68	533	51
2	423	299	595	699	239	195	998	297	540	56	369	42
3	354	254	484	984	398	305	1,190	383	420	49	259	34
4	352	217	411	836	857	414	1,600	338	318	52	194	29
5	469	303	390	1,120	615	504	1,060	301	344	101	209	26
6	405	899	408	1,410	4,180	2,970	830	272	366	166	219	23
7	335	967	373	914	3,980	2,310	749	235	307	103	153	20
8	267	812	339	652	1,610	1,400	778	240	240	67	120	56
9	211	594	322	511	882	925	670	196	185	69	94	285
10	176	453	354	381	637	699	516	166	147	82	76	257
11	149	373	966	233	504	574	421	150	343	344	62	151
12	127	1,770	941	e210	414	490	407	162	1,250	220	56	101
13	112	3,020	684	e190	363	402	1,950	180	668	1,340	90	74
14	114	1,260	650	e170	318	346	2,830	e190	428	883	97	57
15	768	760	751	e155	280	323	1,580	e170	304	496	67	48
16	734	536	595	145	220	340	955	e140	223	324	57	41
17	522	417	671	151	214	589	686	e120	452	219	57	44
18	411	337	733	348	197	540	527	103	444	178	47	932
19	328	2,400	621	676	175	687	426	325	655	141	41	626
20	264	2,870	508	513	175	679	352	549	438	111	36	352
21	217	1,190	411	377	291	1,370	308	561	299	86	59	226
22	196	737	371	370	385	1,110	260	1,690	227	68	132	157
23	188	524	499	282	e320	780	233	909	438	75	82	116
24	166	422	1,600	253	e280	609	240	555	345	262	54	87
25	141	411	1,420	202	e250	501	219	384	246	161	43	70
26	129	335	874	240	e230	418	616	435	206	107	37	59
27	212	294	623	333	214	377	963	832	179	2,110	31	52
28	483	398	494	395	192	439	679	3,940	132	982	28	60
29	454	1,180	431	355	176	389	515	2,570	105	546	29	441
30	454	865	590	320	---	363	414	1,040	84	382	85	262
31	398	---	694	232	---	367	---	737	---	396	74	---
TOTAL	9,904	25,241	19,520	14,234	18,809	21,587	23,539	18,514	10,991	10,244	3,490	4,779
MEAN	319	841	630	459	649	696	785	597	366	330	113	159
MAX	768	3,020	1,600	1,410	4,180	2,970	2,830	3,940	1,250	2,110	533	932
MIN	112	217	322	145	175	172	219	103	84	49	28	20
CFSM	2.16	5.68	4.25	3.10	4.38	4.71	5.30	4.04	2.48	2.23	0.76	1.08
IN.	2.49	6.34	4.91	3.58	4.73	5.43	5.92	4.65	2.76	2.57	0.88	1.20

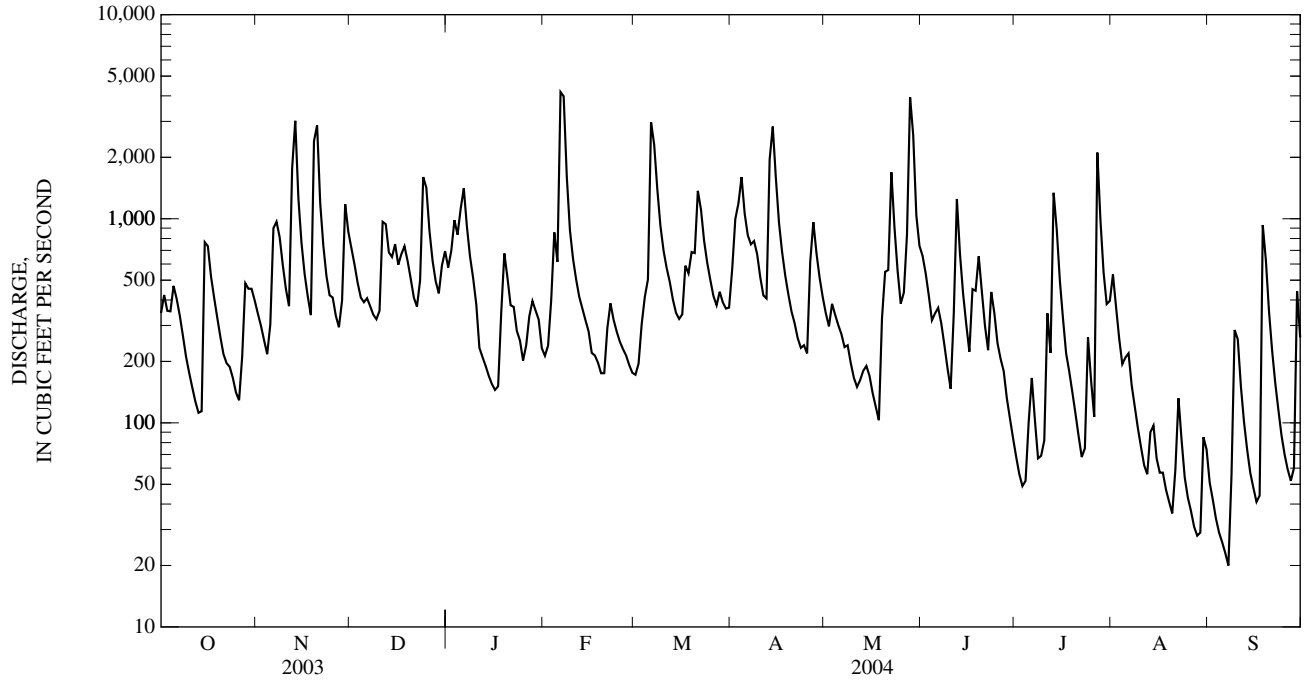
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2004, BY WATER YEAR (WY)

MEAN	123	273	475	553	585	669	523	435	228	159	143	105
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	372	222	90.3	15.4	5.39	2.60	1.40
(WY)	(1954)	(1954)	(1966)	(1977)	(1978)	(1966)	(1971)	(1991)	(1965)	(1966)	(1993)	(1946)

03052000 MIDDLE FORK RIVER AT AUDRA, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1942 - 2004	
ANNUAL TOTAL	193,862		180,852			
ANNUAL MEAN	531		494		355	
HIGHEST ANNUAL MEAN					554	1996
LOWEST ANNUAL MEAN					203	1966
HIGHEST DAILY MEAN	5,050	Feb 23	4,180	Feb 6	9,320	May 17, 1996
LOWEST DAILY MEAN	24	Jul 27	20	Sep 7	0.20	(b)
ANNUAL SEVEN-DAY MINIMUM	37	Jul 21	32	Sep 1	0.20	Oct 11, 1953
MAXIMUM PEAK FLOW			7,160	Feb 6	16,700	May 17, 1996
MAXIMUM PEAK STAGE			(a)10.41	Feb 6	15.60	May 17, 1996
INSTANTANEOUS LOW FLOW			19	Sep 7	0.20	(b)
ANNUAL RUNOFF (CFSM)	3.59		3.34		2.40	
ANNUAL RUNOFF (INCHES)	48.73		45.46		32.61	
10 PERCENT EXCEEDS	1,040		966		835	
50 PERCENT EXCEEDS	384		346		191	
90 PERCENT EXCEEDS	70		69		16	

a From float-tape indicator.
b Oct. 11-27, 1953.
e Estimated.



03052500 SAND RUN NEAR BUCKHANNON, WV

LOCATION.--Lat 38°57'50", long 80°09'10", NAD 27, Upshur County, 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 mi^2.

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

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 1,530 ft above NGVD 29, from topographic map. Prior to May 4, 1983, at datum 1.00 ft higher.

REMARKS.--Records good except those for periods of estimated daily discharges (no gage-height record, ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	1330	575	5.03	Apr 13	1500	772	5.55
Nov 19	1445	*1,410	(a)*6.72	May 28	0730	718	5.42
Feb 6	1030	1,030	6.08	May 28	2200	456	4.66
Mar 6	0800	781	5.57	Jun 11	2130	628	5.18

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	24	56	39	e19	8.6	e46	24	48	4.1	71	1.7
2	34	23	46	54	e16	8.9	e130	23	37	3.3	31	1.2
3	24	17	36	55	101	8.2	156	25	28	2.6	17	0.97
4	29	15	31	52	114	26	141	19	23	6.7	15	0.82
5	30	58	31	144	76	36	85	17	45	16	24	0.86
6	25	98	36	120	537	413	59	15	44	29	16	0.62
7	19	81	32	e80	228	135	46	15	29	9.5	12	0.65
8	15	57	31	e52	96	87	39	15	20	8.2	12	14
9	12	39	30	37	63	67	31	12	15	5.5	7.0	14
10	11	30	37	29	50	55	25	10	14	28	5.2	8.5
11	11	26	134	e25	42	45	22	15	186	26	4.0	4.6
12	8.0	314	88	23	35	35	46	15	216	14	5.9	2.9
13	7.4	150	56	20	31	27	367	14	67	25	8.0	2.2
14	16	64	86	18	27	24	196	11	38	15	5.2	1.7
15	45	42	97	19	24	22	114	11	24	10	3.3	1.4
16	28	34	68	21	21	38	67	15	19	7.7	4.4	1.2
17	22	26	70	24	18	53	49	10	16	6.1	2.6	7.3
18	19	21	65	56	16	47	35	9.0	26	6.1	1.9	90
19	18	456	52	72	16	48	28	53	26	4.4	1.6	24
20	13	186	41	50	15	48	24	39	17	3.3	1.6	13
21	12	79	34	e37	15	138	22	98	12	2.4	25	8.0
22	12	49	33	e31	13	77	18	169	26	2.0	13	5.8
23	12	36	63	e27	12	51	21	64	47	4.6	6.6	4.2
24	9.7	32	165	e24	13	39	21	34	24	9.7	4.3	3.2
25	8.6	29	103	e21	12	31	26	22	16	4.1	2.9	2.7
26	9.5	24	63	32	10	26	137	33	14	3.3	2.3	2.4
27	67	25	45	52	9.9	26	100	47	10	25	1.9	2.2
28	65	54	40	70	9.2	28	55	427	7.9	20	1.6	8.2
29	48	86	33	51	8.7	20	37	191	6.7	19	1.9	9.8
30	38	64	48	40	---	20	30	69	5.4	47	2.2	5.5
31	30	---	47	e24	---	28	---	54	---	89	2.6	---
TOTAL	733.2	2,239	1,797	1,399	1,647.8	1,715.7	2,173	1,575.0	1,107.0	456.6	313.0	243.62
MEAN	23.7	74.6	58.0	45.1	56.8	55.3	72.4	50.8	36.9	14.7	10.1	8.12
MAX	67	456	165	144	537	413	367	427	216	89	71	90
MIN	7.4	15	30	18	8.7	8.2	18	9.0	5.4	2.0	1.6	0.62
CFSM	1.65	5.22	4.05	3.16	3.97	3.87	5.07	3.55	2.58	1.03	0.71	0.57
IN.	1.91	5.82	4.67	3.64	4.29	4.46	5.65	4.10	2.88	1.19	0.81	0.63

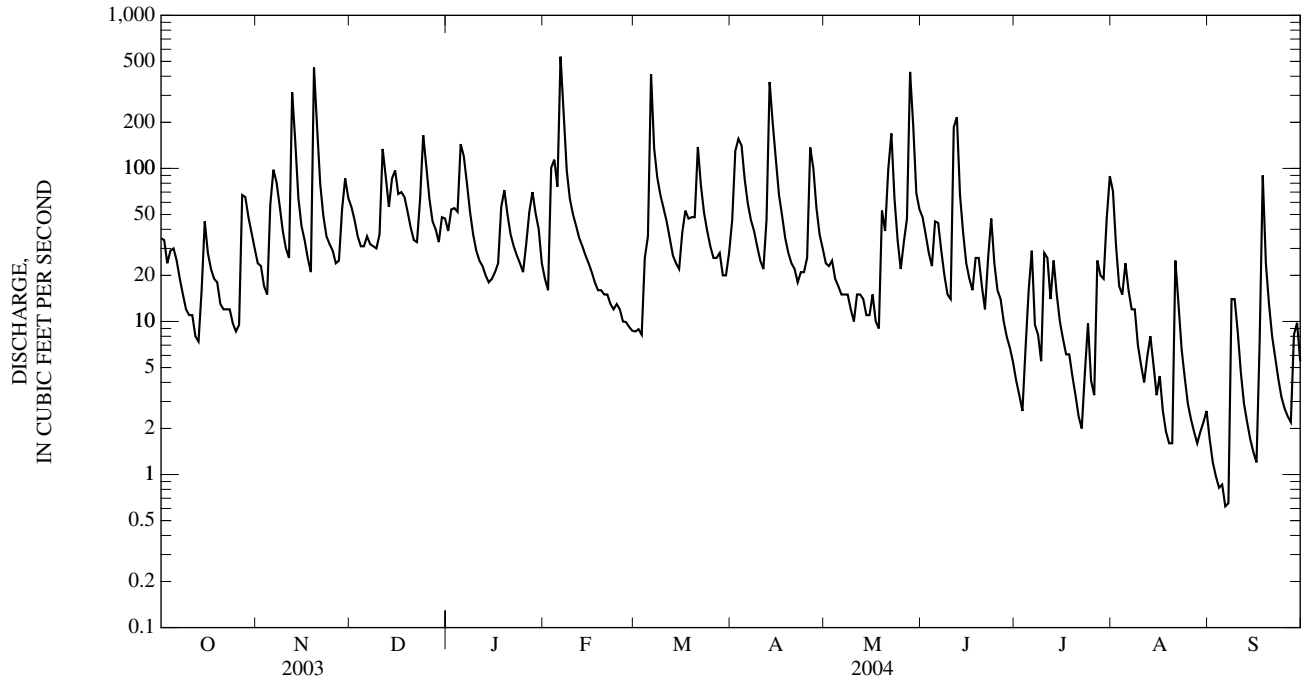
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2004, BY WATER YEAR (WY)

MEAN	10.3	24.2	38.2	42.4	48.3	51.6	40.8	30.8	17.9	13.5	10.4	7.33
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)

03052500 SAND RUN NEAR BUCKHANNON, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1947 - 2004	
ANNUAL TOTAL	14,625.84		15,399.92			
ANNUAL MEAN	40.1		42.1		27.9	
HIGHEST ANNUAL MEAN					45.3	1994
LOWEST ANNUAL MEAN					14.8	1954
HIGHEST DAILY MEAN	609	Feb 23	537	Feb 6	1,320	Feb 9, 1994
LOWEST DAILY MEAN	0.80	Jul 17	0.62	Sep 6	0.00	(b)
ANNUAL SEVEN-DAY MINIMUM	1.2	Jul 21	0.97	Sep 1	0.00	Sep 22, 1953
MAXIMUM PEAK FLOW			1,410	Nov 19	(c)3,200	Nov 4, 1985
MAXIMUM PEAK STAGE			(a)6.72	Nov 19	8.34	Nov 4, 1985
INSTANTANEOUS LOW FLOW			0.50	Sep 7	0.00	(d)
ANNUAL RUNOFF (CFSM)	2.80		2.94		1.95	
ANNUAL RUNOFF (INCHES)	38.05		40.06		26.49	
10 PERCENT EXCEEDS	75		87		63	
50 PERCENT EXCEEDS	26		25		13	
90 PERCENT EXCEEDS	4.2		4.1		1.0	

a From crest-stage gage.
b Several days in 1951-56, 1964-66, July 19, 1986, and Sept 11, 12, 1995.
c From rating curve extended above 1,560 ft^3/s.
d Several days in 1951-56, 1964-66, parts of July 19, 20, 1986, and Sept 11, 12, 1995.
e Estimated.



03053500 BUCKHANNON RIVER AT HALL, WV

LOCATION.--Lat 39°03'04", long 80°06'53", NAD 27, Barbour County, 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 mi^2.

PERIOD OF RECORD.--June 1907 to May 1909 (gage heights only), April 1915 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 783: 1918(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,369.15 ft above mean sea level (from Baltimore & Ohio RR reference mark). June 1907 to May 25, 1909, nonrecording gage at site 0.2 mi downstream at datum 4.12 ft lower. Apr. 15, 1915, to June 8, 1939, nonrecording gage at site 500 ft downstream at present datum.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect, no gage-height record), which are poor. Some regulation at low flow from mine pumpage above station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	1100	5,760	10.52	Mar 6	2130	5,760	10.52
Nov 20	0630	7,800	12.13	Apr 14	0430	6,250	10.92
Feb 7	0530	*8,950	*12.97	May 28	2330	7,120	11.61

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	586	595	1,360	994	e540	246	1,120	549	1,280	118	e960	129
2	717	495	1,100	1,070	758	246	2,590	462	1,070	111	e700	106
3	595	426	881	1,730	1,060	308	2,390	502	812	53	e500	79
4	554	370	734	1,590	2,230	543	2,380	522	602	81	e360	61
5	791	611	673	2,090	1,620	867	1,920	437	944	283	e380	51
6	752	1,810	824	3,050	5,020	4,140	1,410	394	1,500	457	e400	43
7	611	1,930	819	1,930	8,070	4,530	1,130	347	1,080	222	e280	37
8	477	1,560	716	1,310	3,710	2,790	1,140	342	707	147	e220	81
9	385	1,100	651	978	1,810	1,920	1,140	284	493	129	e170	320
10	326	809	630	779	1,300	1,390	869	239	363	181	e140	348
11	274	642	1,520	614	1,020	1,060	691	211	687	638	e115	249
12	236	2,230	1,910	539	825	860	680	208	2,710	505	e105	164
13	204	5,250	1,400	e480	709	708	3,130	451	1,470	864	e160	123
14	225	2,770	1,380	428	609	597	5,490	514	763	1,190	e180	99
15	1,240	1,350	2,110	397	529	554	3,150	405	507	579	e140	79
16	1,500	912	1,640	e350	450	588	1,910	351	374	362	e115	67
17	976	691	1,440	387	384	1,020	1,310	319	388	255	103	66
18	722	542	1,520	577	360	995	934	248	433	201	99	1,370
19	555	2,640	1,320	1,410	331	1,080	722	409	649	172	80	1,300
20	441	6,880	1,080	1,220	310	1,200	590	791	561	138	69	571
21	370	2,870	892	827	319	2,300	519	907	387	113	178	347
22	326	1,460	735	e620	412	2,150	445	2,690	298	93	348	251
23	308	990	917	e530	377	1,500	390	1,960	468	116	215	191
24	271	766	2,100	e460	354	1,120	411	1,030	451	356	134	150
25	232	724	2,850	e430	355	901	372	637	303	304	98	122
26	209	607	1,800	556	323	753	827	570	245	194	80	103
27	649	519	1,260	702	296	663	1,490	1,320	247	e3,100	67	90
28	1,380	611	961	1,140	274	710	1,330	4,660	201	e2,300	58	93
29	977	1,860	813	e940	255	677	892	5,360	162	e1,400	58	329
30	863	1,690	877	831	---	618	679	2,220	134	e700	186	370
31	717	---	1,150	e700	---	645	---	1,310	---	e760	161	---
TOTAL	18,469	45,710	38,063	29,659	34,610	37,679	42,051	30,649	20,289	16,122	6,859	7,389
MEAN	596	1,524	1,228	957	1,193	1,215	1,402	989	676	520	221	246
MAX	1,500	6,880	2,850	3,050	8,070	4,530	5,490	5,360	2,710	3,100	960	1,370
MIN	204	370	630	350	255	246	372	208	134	53	58	37
CFSM	2.15	5.50	4.43	3.45	4.31	4.39	5.06	3.57	2.44	1.88	0.80	0.89
IN.	2.48	6.14	5.11	3.98	4.65	5.06	5.65	4.12	2.72	2.17	0.92	0.99

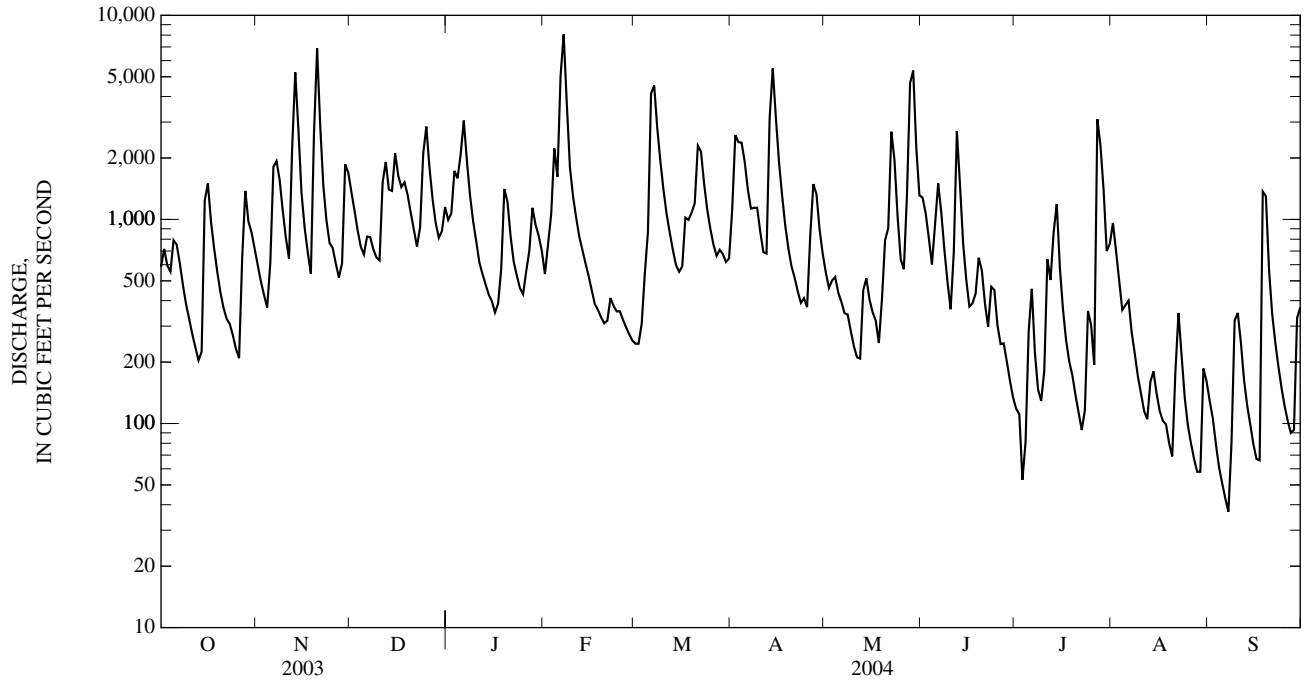
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2004, BY WATER YEAR (WY)

MEAN	256	506	813	921	1,012	1,114	830	671	396	292	263	178
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	474	299	117	30.6	15.9	3.56	0.55
(WY)	(1931)	(1931)	(1931)	(1977)	(1978)	(1987)	(1971)	(1964)	(1965)	(1966)	(1930)	(1930)

03053500 BUCKHANNON RIVER AT HALL, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1915 - 2004	
ANNUAL TOTAL	332,994		327,549			
ANNUAL MEAN	912		895		603	
HIGHEST ANNUAL MEAN					915	1927
LOWEST ANNUAL MEAN					354	1966
HIGHEST DAILY MEAN	8,650	Feb 23	8,070	Feb 7	14,500	Nov 5, 1985
LOWEST DAILY MEAN	76	(a)	37	Sep 7	0.20	(b)
ANNUAL SEVEN-DAY MINIMUM	93	Jul 2	65	Sep 2	0.21	Oct 21, 1930
MAXIMUM PEAK FLOW			8,950	Feb 7	(c)15,000	Nov 5, 1985
MAXIMUM PEAK STAGE			12.97	Feb 7	(d)16.88	Nov 5, 1985
INSTANTANEOUS LOW FLOW			32	Jul 3	0.20	(b)
ANNUAL RUNOFF (CFSM)	3.29		3.23		2.18	
ANNUAL RUNOFF (INCHES)	44.72		43.99		29.59	
10 PERCENT EXCEEDS	1,750		1,920		1,410	
50 PERCENT EXCEEDS	688		608		318	
90 PERCENT EXCEEDS	181		129		36	

a July 7, 27.
b Oct. 21-23, 25-27, 29, 1930.
c From rating curve extended above 13,000 ft^3/s on basis of slope-area measurement.
d From floodmarks.
e Estimated.



03054500 TYGART VALLEY RIVER AT PHILIPPI, WV

LOCATION.--Lat 39°09'01", long 80°02'20", NAD 27, Barbour County, 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 mi^2.

PERIOD OF RECORD.--April 1940 to current year. 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), 1964-65(P), 1969(M), 1986(P), 1989(M), 1990(P), 1992(P), 1993(M), 1994(P).

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

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect), which are poor.

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, or about 26 ft, present site and datum, discharge, about 37,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 13,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	0800	19,500	15.32	Mar 6	2100	19,900	15.54
Nov 20	0100	23,200	17.32	Apr 14	0500	21,000	16.19
Dec 25	0100	13,300	11.76	May 29	0300	21,800	16.64
Feb 7	0200	*33,000	*21.40				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,610	1,890	3,810	3,140	e1,100	812	2,640	1,580	3,360	313	2,830	247
2	1,980	1,600	3,260	3,070	1,170	861	7,090	1,340	2,810	272	1,770	206
3	1,690	1,380	2,710	5,280	2,100	1,540	7,030	1,460	2,170	214	1,090	198
4	1,510	1,210	2,270	4,970	6,720	2,340	8,230	1,640	1,580	176	787	156
5	1,980	1,530	2,070	5,690	4,300	3,370	6,160	1,400	1,670	375	738	129
6	1,980	4,730	2,200	9,070	17,800	14,400	4,110	1,230	2,310	738	784	109
7	1,630	5,620	2,150	5,590	30,100	16,300	3,460	1,060	1,980	522	621	108
8	1,320	4,480	1,910	3,550	15,500	9,460	3,520	1,020	1,440	354	469	180
9	1,060	3,210	1,770	2,830	5,680	5,910	3,310	862	1,060	287	374	839
10	893	2,430	1,800	2,240	3,580	3,970	2,560	712	804	379	316	1,340
11	758	1,940	5,320	1,650	2,830	3,110	1,990	637	1,410	1,260	266	817
12	661	8,050	7,080	e1,400	2,290	2,640	1,860	618	9,000	1,280	237	485
13	585	18,800	4,160	e1,250	1,950	2,170	9,720	756	4,960	3,580	270	378
14	584	13,100	3,480	e1,150	1,700	1,760	19,900	925	2,150	4,510	372	298
15	2,610	4,680	4,410	e1,050	1,520	1,580	12,800	799	1,420	1,850	315	214
16	4,270	3,060	3,470	e940	1,300	1,660	6,320	728	1,030	1,130	293	222
17	2,930	2,350	3,200	869	1,120	3,450	3,790	653	1,800	743	252	201
18	2,170	1,850	3,740	1,530	1,040	3,350	2,670	565	4,010	555	224	2,540
19	1,680	8,640	3,410	3,500	948	3,450	2,030	1,560	4,940	462	194	3,840
20	1,370	21,400	2,840	2,980	925	4,130	1,620	3,270	2,440	468	170	1,700
21	1,160	11,300	2,330	2,110	1,270	7,470	1,410	2,790	1,440	379	240	981
22	1,010	4,440	2,010	1,890	2,350	7,670	1,220	10,100	1,020	307	732	653
23	953	3,020	2,560	1,570	1,820	4,450	1,070	7,050	1,470	314	520	483
24	886	2,380	8,150	1,330	1,490	3,170	1,070	3,000	1,490	734	341	386
25	766	2,240	11,700	1,170	1,370	2,570	998	1,810	982	632	257	309
26	684	1,910	5,900	1,220	1,210	2,140	2,580	1,490	773	441	212	249
27	1,280	1,650	3,630	1,590	1,070	1,840	8,390	3,560	680	5,660	180	227
28	3,170	1,770	2,810	2,150	956	1,870	4,450	16,100	546	5,060	156	236
29	3,130	6,170	2,410	1,980	855	1,760	2,730	19,800	444	2,290	156	1,910
30	2,710	4,960	2,710	1,710	---	1,600	2,000	8,320	374	1,440	223	1,870
31	2,290	---	3,680	1,340	---	1,620	---	3,680	---	1,850	275	---
TOTAL	51,310	151,790	112,950	79,809	116,064	122,423	136,728	100,515	61,563	38,575	15,664	21,511
MEAN	1,655	5,060	3,644	2,574	4,002	3,949	4,558	3,242	2,052	1,244	505	717
MAX	4,270	21,400	11,700	9,070	30,100	16,300	19,900	19,800	9,000	5,660	2,830	3,840
MIN	584	1,210	1,770	869	855	812	998	565	374	176	156	108
CFSM	1.81	5.54	3.99	2.82	4.38	4.32	4.99	3.55	2.25	1.36	0.55	0.78
IN.	2.09	6.18	4.60	3.25	4.72	4.98	5.56	4.09	2.51	1.57	0.64	0.88

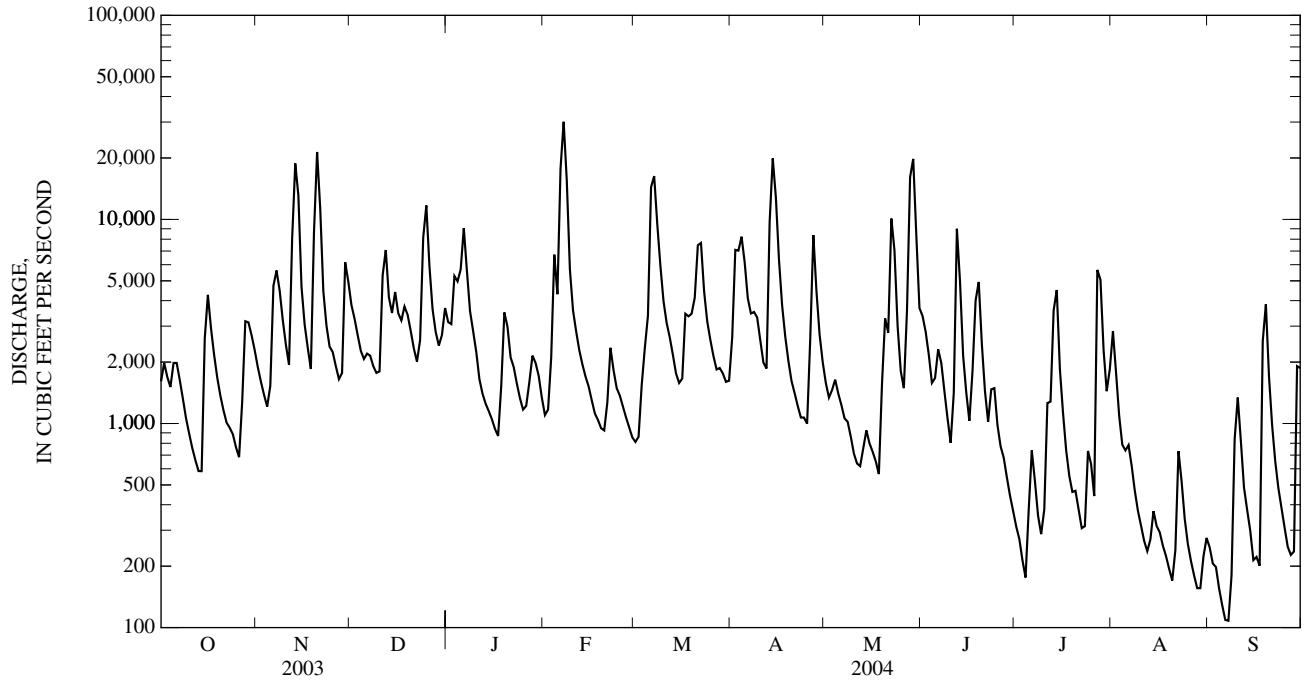
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

MEAN	707	1,615	2,545	2,832	3,206	3,588	2,827	2,249	1,288	927	820	563
MAX	3,391	7,341	6,172	5,864	6,460	8,024	5,378	8,818	4,224	3,753	3,779	3,197
(WY)	(1980)	(1986)	(1973)	(1994)	(1994)	(1963)	(2002)	(1996)	(1981)	(1958)	(1942)	(2003)
MIN	5.88	11.4	273	563	587	1,531	1,090	483	114	60.3	30.9	16.4
(WY)	(1954)	(1954)	(1966)	(1977)	(1978)	(1987)	(1971)	(1991)	(1965)	(1999)	(1993)	(1946)

03054500 TYGART VALLEY RIVER AT PHILIPPI, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004	
ANNUAL TOTAL	1,107,967		1,008,902			
ANNUAL MEAN	3,036		2,757		1,921	
HIGHEST ANNUAL MEAN					3,136	1996
LOWEST ANNUAL MEAN					1,105	1966
HIGHEST DAILY MEAN	28,900	Feb 23	30,100	Feb 7	50,900	Nov 5, 1985
LOWEST DAILY MEAN	181	Jul 27	108	Sep 7	4.9	(a)
ANNUAL SEVEN-DAY MINIMUM	272	Jul 22	155	Sep 2	5.2	Oct 9, 1953
MAXIMUM PEAK FLOW			33,000	Feb 7	(b)61,000	Nov 5, 1985
MAXIMUM PEAK STAGE			21.40	Feb 7	(c)31.83	Nov 5, 1985
INSTANTANEOUS LOW FLOW			102	Sep 7	4.9	(d)
ANNUAL RUNOFF (CFSM)	3.32		3.02		2.10	
ANNUAL RUNOFF (INCHES)	45.09		41.06		28.56	
10 PERCENT EXCEEDS	6,230		5,900		4,530	
50 PERCENT EXCEEDS	2,070		1,700		1,040	
90 PERCENT EXCEEDS	472		308		115	

a Oct. 10, 11, 1953.
b From rating curve extended above 41,000 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks.
d Oct. 10-12, 21, 1953.
e Estimated.



03056250 THREE FORK CREEK NEAR GRAFTON, WV

LOCATION.--Lat 39°20'11", long 79°59'37", NAD 27, Taylor County, 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 mi^2.

PERIOD OF RECORD.--October 1984 to current year.

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

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is approximately 1,000 ft above NGVD 29, from topographic map.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect, no gage-height record), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	1000	5,020	12.90	Mar 6	0730	3,760	11.29
Nov 19	1630	*7,540	(a)*15.72	Apr 13	1700	5,150	13.06
Feb 6	1230	4,790	12.62				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	208	147	289	264	e87	109	317	136	150	28	227	23
2	198	125	241	335	e82	119	946	122	110	24	101	20
3	148	110	195	388	491	123	763	128	89	22	61	18
4	172	96	166	840	730	234	597	103	71	21	46	16
5	231	393	156	1,550	394	301	422	90	122	22	54	15
6	176	915	145	906	3,080	2,280	323	81	135	21	43	14
7	134	503	125	473	2,180	1,010	264	71	99	19	32	23
8	106	339	114	333	717	718	212	71	71	18	26	269
9	84	241	109	261	450	489	177	61	56	17	23	537
10	71	184	127	180	353	372	141	54	48	16	20	281
11	61	159	1,020	133	319	295	124	57	281	17	19	133
12	55	2,570	642	e125	273	238	165	54	979	20	20	84
13	50	1,040	369	e115	255	181	2,330	46	512	28	30	60
14	52	484	302	e110	222	152	1,370	42	289	27	26	46
15	175	316	246	e100	186	145	607	42	181	19	20	39
16	118	232	195	e86	142	206	385	84	135	16	18	33
17	96	180	243	e80	131	398	282	59	181	14	17	59
18	106	145	260	e150	118	301	214	86	838	14	15	826
19	97	3,250	236	e180	112	322	170	1,080	398	102	32	304
20	86	1,640	204	e140	130	291	145	464	231	45	62	152
21	78	595	169	e130	269	680	127	309	147	30	746	100
22	74	368	161	e115	238	490	115	820	122	21	410	72
23	67	265	291	110	182	337	113	384	102	20	153	54
24	59	217	1,140	104	185	256	111	215	74	28	88	45
25	52	185	736	89	204	200	101	142	58	21	60	38
26	50	148	421	101	173	161	615	142	55	17	45	34
27	173	129	295	110	149	152	497	124	46	200	36	31
28	310	189	236	145	127	140	295	241	38	187	32	36
29	249	391	203	115	114	122	209	184	37	73	29	60
30	232	308	311	103	---	119	161	124	33	52	36	43
31	182	---	329	e94	---	136	---	126	---	152	29	---
TOTAL	3,950	15,864	9,676	7,965	12,093	11,077	12,298	5,742	5,688	1,311	2,556	3,465
MEAN	127	529	312	257	417	357	410	185	190	42.3	82.5	116
MAX	310	3,250	1,140	1,550	3,080	2,280	2,330	1,080	979	200	746	826
MIN	50	96	109	80	82	109	101	42	33	14	15	14
CFSM	1.32	5.46	3.22	2.65	4.31	3.69	4.23	1.91	1.96	0.44	0.85	1.19
IN.	1.52	6.10	3.72	3.06	4.65	4.26	4.73	2.21	2.19	0.50	0.98	1.33

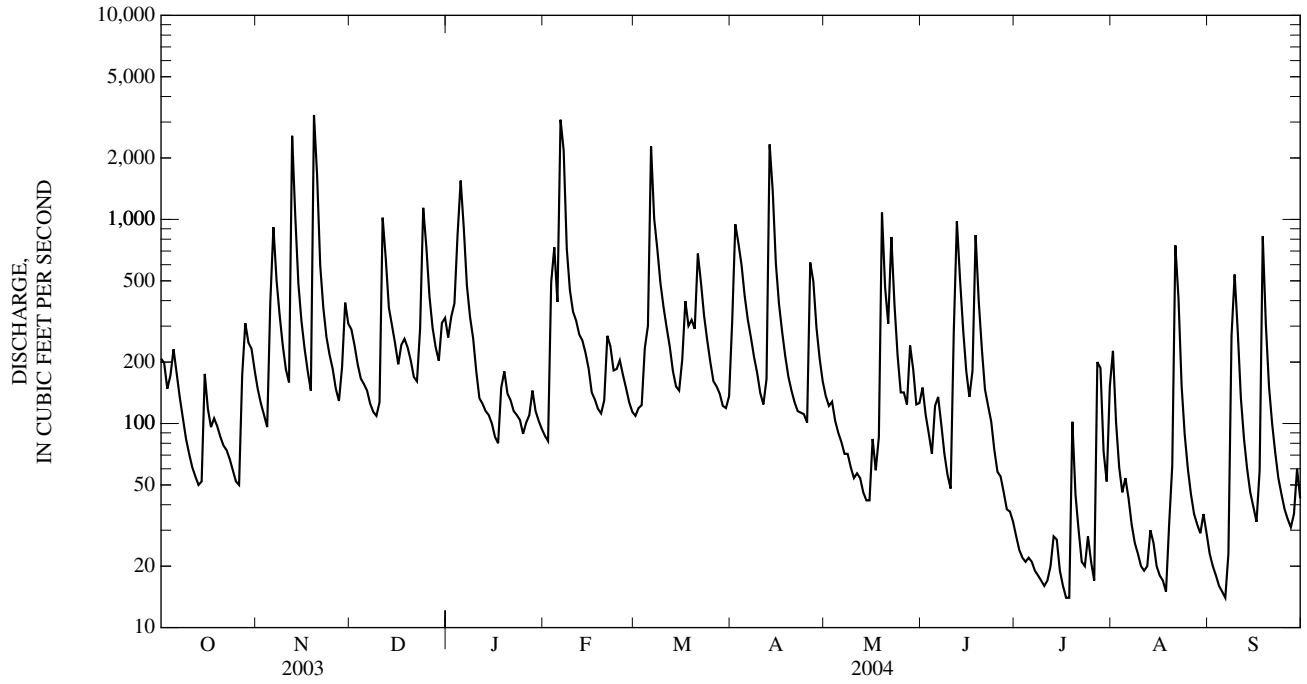
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2004, BY WATER YEAR (WY)

MEAN	54.8	192	234	272	327	335	253	202	129	91.8	47.4	49.2
MAX	237	654	578	549	643	598	410	598	500	235	171	217
(WY)	(1997)	(1986)	(1991)	(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)

03056250 THREE FORK CREEK NEAR GRAFTON, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1985 - 2004	
ANNUAL TOTAL	99,284		91,685			
ANNUAL MEAN	272		251		182	
HIGHEST ANNUAL MEAN					272	1996
LOWEST ANNUAL MEAN					112	1988
HIGHEST DAILY MEAN	3,250	Nov 19	3,250	Nov 19	5,200	Nov 5, 1985
LOWEST DAILY MEAN	14	(b)	14	(c)	0.49	(d)
ANNUAL SEVEN-DAY MINIMUM	17	Aug 20	18	Jul 6	0.55	Aug 13, 1988
MAXIMUM PEAK FLOW			7,540	Nov 19	(f)12,000	Nov 5, 1985
MAXIMUM PEAK STAGE			(a)15.72	Nov 19	(g)20.13	Nov 5, 1985
INSTANTANEOUS LOW FLOW			13	(h)	0.44	Aug 18, 1988
ANNUAL RUNOFF (CFSM)	2.81		2.59		1.88	
ANNUAL RUNOFF (INCHES)	38.15		35.23		25.49	
10 PERCENT EXCEEDS	599		506		423	
50 PERCENT EXCEEDS	150		138		89	
90 PERCENT EXCEEDS	46		27		8.1	

a From float-tape indicator.
b Aug. 25, 26.
c July 17, 18, Sept. 6.
d Aug. 16, 18, 1988.
e Estimated.
f From rating curve extended above 10,000 ft^3/s on basis of slope-area measurement of peak flow.
g From floodmarks.
h July 18, Sept. 7.



03058975 WEST FORK RIVER NEAR MOUNT CLARE, WV

LOCATION.--Lat 39°14'19", long 80°21'33", NAD 27, Harrison County, Hydrologic Unit 05020002, on right bank 4 miles 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 mi^2.

PERIOD OF RECORD.--April 1987 to current year.

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

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 931.04 ft above NGVD 29.

REMARKS.--Records fair except those for period of estimated daily discharges (doubtful gage heights), which are poor. Flow partially regulated since 1973 by Stonecoal Reservoir. Flow regulated since January 1990 by Stonewall Jackson Lake.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 10,900 ft^3/s, Nov. 20, gage height, 18.25 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	586	532	1,160	778	527	152	839	648	1,270	137	334	104
2	706	483	1,040	825	478	155	2,630	468	1,180	117	348	96
3	543	450	950	1,070	1,520	156	1,960	435	1,080	109	225	93
4	496	423	895	990	3,140	730	1,570	307	1,000	109	165	94
5	611	622	900	2,010	1,560	1,310	1,300	212	1,160	124	159	91
6	527	2,340	1,250	2,520	6,050	5,950	1,120	183	1,370	159	138	87
7	458	1,500	1,260	1,330	6,500	3,230	938	162	1,260	149	115	94
8	406	1,130	1,120	1,230	2,420	2,140	810	181	1,070	128	105	1,190
9	371	925	1,020	1,150	1,830	2,240	754	169	765	117	102	2,500
10	352	823	979	1,050	1,890	1,930	684	136	538	159	105	797
11	338	769	1,920	725	1,810	1,190	509	115	772	338	103	361
12	326	3,870	1,890	701	1,660	1,000	434	115	2,220	464	107	224
13	316	4,710	1,210	684	1,600	791	3,780	118	1,310	829	138	177
14	329	2,070	1,150	533	1,490	573	5,960	126	1,070	505	142	151
15	902	1,540	2,260	434	1,170	437	2,530	139	800	235	117	137
16	777	1,280	1,770	371	1,090	411	1,820	188	618	174	105	127
17	633	1,140	1,500	325	847	752	1,680	159	530	150	104	270
18	589	1,050	1,510	630	518	612	1,500	142	1,130	139	100	3,880
19	546	5,040	1,290	1,380	453	640	1,350	619	836	135	104	1,070
20	520	7,800	1,160	950	363	627	1,270	831	521	130	110	654
21	499	1,970	1,060	763	369	1,720	1,060	671	391	126	269	594
22	490	1,790	1,000	695	367	1,410	978	2,960	353	130	531	524
23	487	1,610	e1,160	588	321	893	700	1,510	341	136	221	488
24	382	1,440	e1,500	510	320	671	495	956	341	202	141	470
25	341	1,400	2,000	423	334	530	419	817	302	212	141	451
26	338	1,270	1,400	471	262	431	686	594	282	171	118	435
27	391	1,020	1,130	532	228	375	1,070	998	282	436	102	453
28	936	1,090	1,020	784	216	364	968	3,620	261	966	101	300
29	721	1,750	817	654	172	308	896	3,410	220	484	114	312
30	795	1,300	841	622	---	293	836	1,620	167	245	180	242
31	635	---	856	568	---	330	---	1,290	---	193	120	---
TOTAL	16,347	53,137	39,018	26,296	39,505	32,351	41,546	23,899	23,440	7,708	4,964	16,466
MEAN	527	1,771	1,259	848	1,362	1,044	1,385	771	781	249	160	549
MAX	936	7,800	2,260	2,520	6,500	5,950	5,960	3,620	2,220	966	531	3,880
MIN	316	423	817	325	172	152	419	115	167	109	100	87

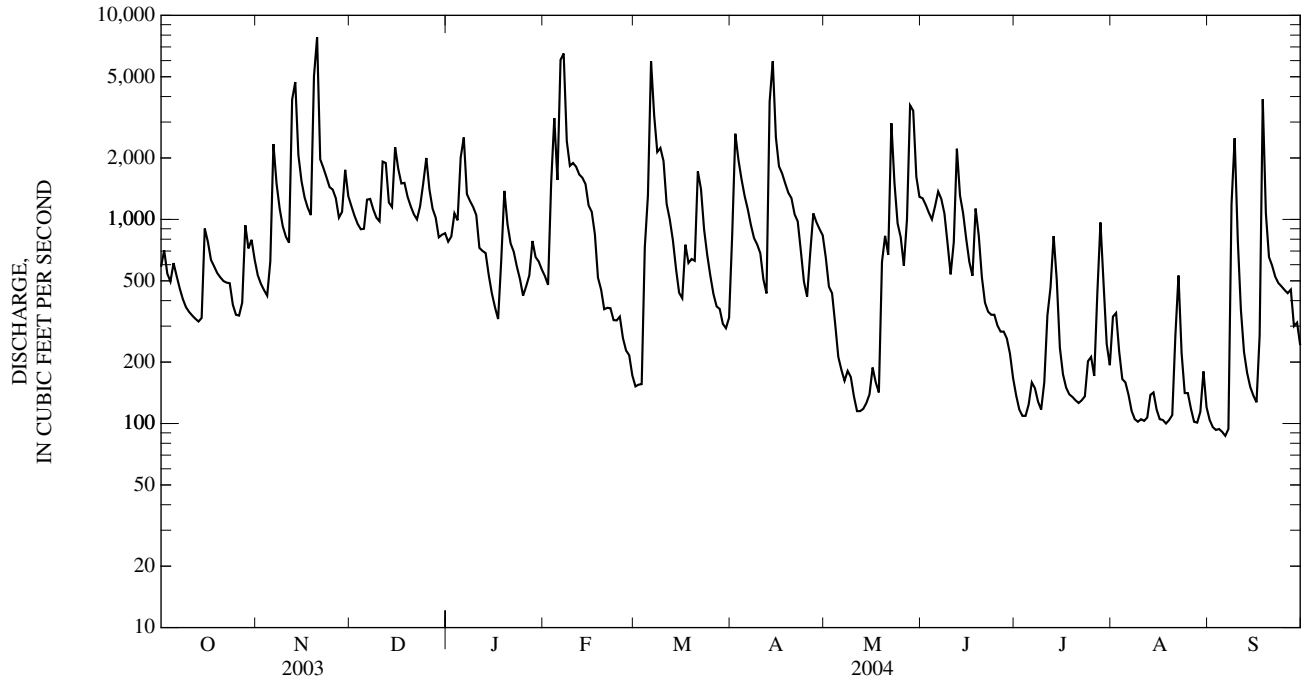
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2004, BY WATER YEAR (WY)

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)

03058975 WEST FORK RIVER NEAR MOUNT CLARE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1987 - 2004	
ANNUAL TOTAL	332,125		324,677			
ANNUAL MEAN	910		887		591	
HIGHEST ANNUAL MEAN					887	2004
LOWEST ANNUAL MEAN					338	1988
HIGHEST DAILY MEAN	8,990	Feb 23	7,800	Nov 20	9,780	Feb 9, 1994
LOWEST DAILY MEAN	125	Jul 6	87	Sep 6	7.4	Oct 2, 1988
ANNUAL SEVEN-DAY MINIMUM	178	Mar 23	94	Sep 1	12	Aug 9, 1987
MAXIMUM PEAK FLOW			10,900	Nov 20	11,600	Feb 9, 1994
MAXIMUM PEAK STAGE			18.25	Nov 20	19.08	Feb 9, 1994
INSTANTANEOUS LOW FLOW			85	Sep 6	6.6	Oct 2, 1988
10 PERCENT EXCEEDS	1,760		1,810		1,360	
50 PERCENT EXCEEDS	633		612		299	
90 PERCENT EXCEEDS	201		129		98	

e Estimated.



03061000 WEST FORK RIVER AT ENTERPRISE, WV

LOCATION.--Lat 39°25'20", long 80°16'34", NAD 27, Harrison County, 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 mi^2.

PERIOD OF RECORD.--June 1907 to September 1916, October 1916 to September 1918 (gage heights only), October 1932 to September 1983, October 1983 to September 1984 (gage heights, discharge measurements, and annual maximum discharge only), October 1984 to current year.

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). WDR WV-97-1: 1888(M).

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

REMARKS.--Records fair except those for periods of estimated daily discharges (ice effect), which are poor. Flow partially regulated since 1973 by Stonecoal Reservoir. Flow regulated since January 1990 by Stonewall Jackson Lake.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1888 reached a stage of about 33 ft, estimated discharge, 48,000 ft^3/s, present site and datum.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 28,100 ft^3/s, Nov. 19, gage height, 23.81 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	962	889	2,200	1,490	e900	453	1,990	1,060	2,170	230	1,110	225
2	1,240	758	1,890	1,720	e840	453	6,340	852	1,830	193	830	193
3	930	680	1,620	2,310	3,560	454	3,980	808	1,570	180	497	175
4	784	630	1,460	3,420	6,340	985	3,010	679	1,380	170	520	164
5	939	1,050	1,430	6,110	3,280	2,790	2,440	503	1,600	167	443	158
6	841	4,820	1,900	5,920	15,100	13,700	1,970	443	2,140	498	421	147
7	694	3,010	2,040	2,970	16,500	9,080	1,660	407	1,810	353	313	127
8	598	2,160	1,780	2,340	5,550	4,320	1,380	588	1,440	232	254	2,180
9	537	1,560	1,610	2,100	3,370	3,810	1,280	432	1,070	190	223	7,100
10	500	1,260	1,610	1,800	3,130	3,110	1,130	333	788	231	204	2,240
11	471	1,140	5,600	1,360	2,970	2,230	956	285	1,660	828	208	949
12	450	12,000	4,070	1,290	2,640	1,760	961	279	5,400	848	198	562
13	430	11,000	2,510	1,230	2,460	1,440	9,320	279	3,090	2,880	225	406
14	458	3,780	2,160	1,090	2,280	1,130	14,700	263	1,880	1,240	246	329
15	1,440	2,430	4,050	936	1,940	992	5,190	296	1,370	539	245	285
16	1,350	1,930	3,020	794	1,680	1,090	3,320	514	985	362	213	265
17	939	1,660	3,090	672	1,430	2,010	2,800	397	851	288	188	833
18	823	1,460	3,090	1,250	1,080	1,570	2,460	307	3,400	258	175	12,100
19	740	12,500	2,500	2,830	862	1,530	2,170	4,090	2,850	235	186	3,350
20	672	20,700	2,110	1,820	809	1,470	1,990	2,700	1,270	211	399	1,280
21	623	4,640	1,800	1,290	805	3,220	1,760	2,720	831	193	3,600	972
22	604	2,980	1,720	e1,150	816	2,940	1,540	9,450	683	180	1,930	793
23	602	2,530	2,100	1,060	710	1,850	1,330	3,880	636	207	717	688
24	550	2,240	3,470	e960	701	1,430	1,050	1,830	597	429	419	622
25	455	2,220	4,360	871	744	1,170	832	1,310	498	412	328	580
26	439	1,990	2,810	959	655	984	1,330	1,000	497	347	283	551
27	710	1,640	2,210	1,020	584	928	2,270	1,410	478	2,420	227	532
28	1,910	1,780	1,890	1,510	555	906	1,630	7,920	413	2,860	206	540
29	1,370	3,550	1,590	1,210	514	781	1,400	7,570	377	1,020	193	569
30	1,420	2,620	1,630	1,060	---	723	1,250	3,320	289	511	345	476
31	1,120	---	1,710	e980	---	852	---	2,240	---	430	299	---
TOTAL	25,601	111,607	75,030	55,522	82,805	70,161	83,439	58,165	43,853	19,142	15,645	39,391
MEAN	826	3,720	2,420	1,791	2,855	2,263	2,781	1,876	1,462	617	505	1,313
MAX	1,910	20,700	5,600	6,110	16,500	13,700	14,700	9,450	5,400	2,880	3,600	12,100
MIN	430	630	1,430	672	514	453	832	263	289	167	175	127

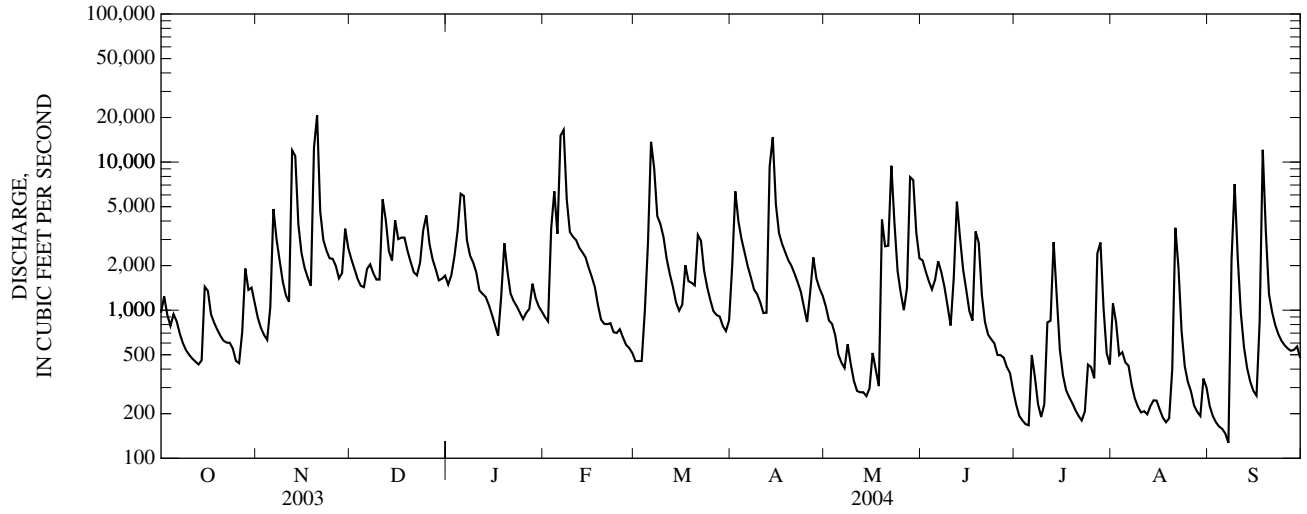
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2004, BY WATER YEAR (WY)

MEAN	469	1,054	1,529	1,762	2,096	2,187	1,602	1,424	947	537	476	397
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	170	75.5	69.5	77.0
(WY)	(1989)	(1999)	(1999)	(2000)	(1978)	(1987)	(1995)	(1982)	(1977)	(1988)	(1988)	(1983)

03061000 WEST FORK RIVER AT ENTERPRISE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1973 - 2004	
ANNUAL TOTAL	653,178		680,361			
ANNUAL MEAN	1,790		1,859		1,202	
HIGHEST ANNUAL MEAN					1,859	2004
LOWEST ANNUAL MEAN					583	1988
HIGHEST DAILY MEAN	20,700	(a)	20,700	Nov 20	37,900	Nov 5, 1985
LOWEST DAILY MEAN	264	Jul 6	127	Sep 7	14	Oct 18, 1988
ANNUAL SEVEN-DAY MINIMUM	307	Sep 12	170	Sep 1	20	Oct 12, 1988
MAXIMUM PEAK FLOW			28,100	Nov 19	(b)41,100	Nov 5, 1985
MAXIMUM PEAK STAGE			23.81	Nov 19	30.37	Nov 5, 1985
INSTANTANEOUS LOW FLOW			122	(c)	12	Oct 18, 1988
10 PERCENT EXCEEDS	3,410		3,550		2,790	
50 PERCENT EXCEEDS	1,130		1,120		587	
90 PERCENT EXCEEDS	429		262		138	

a Feb. 23, Nov. 20.
b From rating curve extended above 36,400 ft^3/s.
c Sept. 7, 8.
e Estimated



STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1907-1916, 1933-1972, BY WATER YEAR (WY) [UNREGULATED]

	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)

SUMMARY STATISTICS	WATER YEARS 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
INSTANTANEOUS PEAK FLOW	(*)36,500	Mar 7, 1967
INSTANTANEOUS PEAK STAGE	28.05	Mar 7, 1967
INSTANTANEOUS LOW FLOW	3.4	Jul 27, 1934
10 PERCENT EXCEEDS	2,800	
50 PERCENT EXCEEDS	440	
90 PERCENT EXCEEDS	55	

* From rating curve extended above 21,000 ft^3/s on basis of slope-area measurement at gage height 27.84 ft.

03061430 WHETSTONE RUN NEAR MANNINGTON, WV
(Detention Reservoir)

LOCATION.-- Lat 39°31'03", long 80°22'17", NAD 27, Marion County, Hydrologic Unit 05020003.

DAM NAME.--Upper Buffalo Creek # 37-A.

SURFACE AREA.-- 8 acres.

DRAINAGE AREA.-- 2.0 mi^2.

PERIOD OF RECORD.-- October 2003 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1004.00 ft above NGVD 29.

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

Top of Riser = 26.00 ft

Emergency Spillway = 32.50 ft

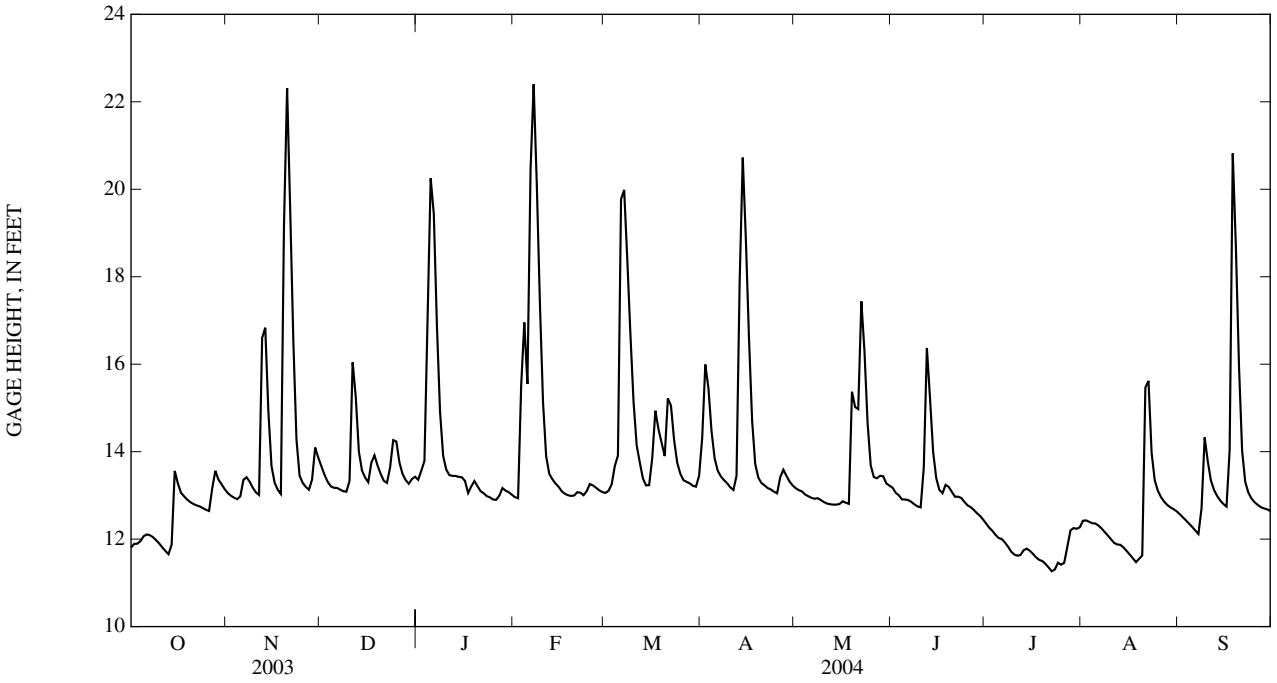
Top of Dam = 48.90 ft

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 23.84 ft, Nov. 19; minimum gage height, 11.18 ft, July 23.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.81	13.05	13.66	13.36	12.96	13.06	14.32	13.16	13.18	12.35	12.42	12.57
2	11.89	12.99	13.47	13.57	12.93	13.11	15.99	13.12	13.06	12.26	12.43	12.50
3	11.90	12.95	13.31	13.79	15.52	13.25	15.45	13.09	13.00	12.19	12.40	12.43
4	11.95	12.91	13.21	17.02	16.95	13.67	14.46	13.02	12.91	12.10	12.36	12.35
5	12.06	12.98	13.17	20.25	15.55	13.91	13.84	12.98	12.91	12.03	12.36	12.28
6	12.11	13.35	13.17	19.44	20.45	19.77	13.56	12.94	12.89	12.00	12.31	12.20
7	12.09	13.42	13.13	16.88	22.40	19.99	13.43	12.92	12.85	11.92	12.24	12.12
8	12.05	13.31	13.10	14.91	20.12	18.39	13.35	12.94	12.80	11.83	12.16	12.70
9	11.98	13.18	13.08	13.90	17.39	16.68	13.28	12.89	12.75	11.71	12.08	14.32
10	11.90	13.07	13.33	13.59	15.13	15.15	13.19	12.85	12.73	11.65	12.00	13.78
11	11.81	13.01	16.04	13.46	13.90	14.15	13.12	12.81	13.63	11.62	11.91	13.34
12	11.73	16.60	15.25	13.45	13.49	13.76	13.45	12.80	16.37	11.64	11.88	13.12
13	11.66	16.83	14.00	13.44	13.37	13.39	17.87	12.79	15.22	11.75	11.87	12.99
14	11.88	14.91	13.57	13.42	13.27	13.23	20.72	12.79	14.00	11.78	11.81	12.88
15	13.56	13.67	13.41	13.41	13.20	13.23	18.85	12.80	13.39	11.73	11.73	12.80
16	13.27	13.29	13.30	13.33	13.09	13.86	16.59	12.86	13.13	11.66	11.65	12.74
17	13.06	13.13	13.75	13.05	13.04	14.94	14.71	12.83	13.05	11.58	11.56	14.04
18	12.98	13.03	13.92	13.20	13.00	14.51	13.72	12.81	13.24	11.52	11.47	20.82
19	12.90	19.18	13.68	13.33	12.99	14.20	13.40	15.37	13.19	11.50	11.55	18.69
20	12.85	22.31	13.49	13.21	13.00	13.90	13.28	15.02	13.08	11.43	11.63	15.95
21	12.80	19.51	13.33	13.10	13.07	15.22	13.23	14.97	12.97	11.35	15.47	14.02
22	12.77	16.52	13.29	13.05	13.06	15.05	13.17	17.44	12.97	11.26	15.62	13.31
23	12.75	14.28	13.64	12.98	13.00	14.27	13.14	16.30	12.94	11.31	13.97	13.06
24	12.71	13.45	14.26	12.95	13.10	13.75	13.08	14.64	12.85	11.46	13.35	12.93
25	12.67	13.29	14.23	12.91	13.26	13.50	13.05	13.68	12.77	11.42	13.11	12.84
26	12.64	13.19	13.75	12.90	13.23	13.35	13.42	13.42	12.73	11.46	12.96	12.78
27	13.16	13.13	13.49	12.99	13.18	13.31	13.59	13.39	12.67	11.83	12.86	12.73
28	13.56	13.36	13.35	13.17	13.12	13.28	13.45	13.45	12.60	12.20	12.78	12.70
29	13.36	14.09	13.27	13.11	13.08	13.22	13.32	13.44	12.53	12.25	12.73	12.68
30	13.26	13.86	13.37	13.07	---	13.20	13.23	13.27	12.45	12.24	12.69	12.64
31	13.14	---	13.43	13.02	---	13.45	---	13.22	---	12.27	12.64	---
MEAN	12.52	14.39	13.63	13.98	14.48	14.44	14.31	13.55	13.16	11.78	12.52	13.48
MAX	13.56	22.31	16.04	20.25	22.40	19.99	20.72	17.44	16.37	12.35	15.62	20.82
MIN	11.66	12.91	13.08	12.90	12.93	13.06	13.05	12.79	12.45	11.26	11.47	12.12

03061430 WHETSTONE RUN NEAR MANNINGTON, WV—Continued



03061500 BUFFALO CREEK AT BARRACKVILLE, WV

LOCATION.--Lat 39°30'20", long 80°10'05", NAD 27, Marion County, 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 mi^2.

PERIOD OF RECORD.--June 1907 to December 1908, May 1915 to June 1924, August 1932 to current year.

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.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 882.42 ft above NGVD 29. 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.--Records good except those for periods of estimated daily discharges (ice effect), which are poor. Flow from 5.20 mi^2 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, present site and datum, discharge, 11,600 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	1200	4,470	10.16	Mar 6	0900	4,780	10.45
Nov 19	1900	*9,460	*14.08	Apr 13	1900	4,580	10.26
Jan 4	1300	3,520	9.19	Sep 18	0300	6,150	11.62
Feb 6	1300	5,060	10.70				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	87	324	196	e80	81	583	91	88	25	57	21
2	55	73	251	252	e76	86	1,150	85	69	23	44	19
3	47	64	194	317	1,220	92	587	82	63	22	34	18
4	47	58	163	2,140	1,000	124	398	69	54	22	36	16
5	56	69	153	2,290	531	194	304	63	62	23	42	17
6	52	337	151	931	3,530	2,880	238	58	57	29	36	16
7	44	248	130	475	1,530	893	200	53	49	27	26	16
8	39	180	116	328	620	609	174	52	42	23	21	144
9	33	131	110	259	405	456	152	45	37	23	18	669
10	28	102	162	188	328	332	124	40	34	21	17	243
11	24	89	1,310	166	290	258	107	37	162	23	16	103
12	23	2,260	591	142	232	208	188	36	740	44	17	62
13	21	759	340	127	207	164	2,520	35	281	94	23	47
14	45	349	273	109	173	139	1,380	32	198	66	23	38
15	571	229	224	103	151	131	615	34	210	41	19	33
16	195	168	181	87	116	221	386	40	125	29	16	29
17	106	129	314	120	107	531	288	35	134	23	14	542
18	86	102	393	138	97	338	217	31	515	21	13	3,110
19	69	4,710	306	192	93	352	175	407	220	20	24	434
20	58	1,900	243	147	92	311	146	240	126	21	49	195
21	50	624	190	e120	105	642	130	652	83	20	867	122
22	48	350	182	e110	98	442	113	1,540	76	17	281	82
23	45	252	328	e95	82	307	109	412	67	24	109	61
24	39	206	734	e85	96	235	92	207	52	31	61	48
25	34	196	554	e78	140	191	82	142	42	20	44	41
26	31	162	352	e72	120	158	172	132	39	23	34	36
27	148	137	262	100	107	153	204	127	35	164	30	33
28	345	182	211	144	93	146	155	125	31	204	26	34
29	195	465	181	115	85	128	120	123	30	85	31	32
30	152	368	214	e96	---	123	101	89	27	47	31	30
31	113	---	221	e85	---	186	---	86	---	36	24	---
TOTAL	2,848	14,986	9,358	9,807	11,804	11,111	11,210	5,200	3,748	1,291	2,083	6,291
MEAN	91.9	500	302	316	407	358	374	168	125	41.6	67.2	210
MAX	571	4,710	1,310	2,290	3,530	2,880	2,520	1,540	740	204	867	3,110
MIN	21	58	110	72	76	81	82	31	27	17	13	16
CFSM	0.79	4.31	2.60	2.73	3.51	3.09	3.22	1.45	1.08	0.36	0.58	1.81
IN.	0.91	4.81	3.00	3.15	3.79	3.56	3.59	1.67	1.20	0.41	0.67	2.02

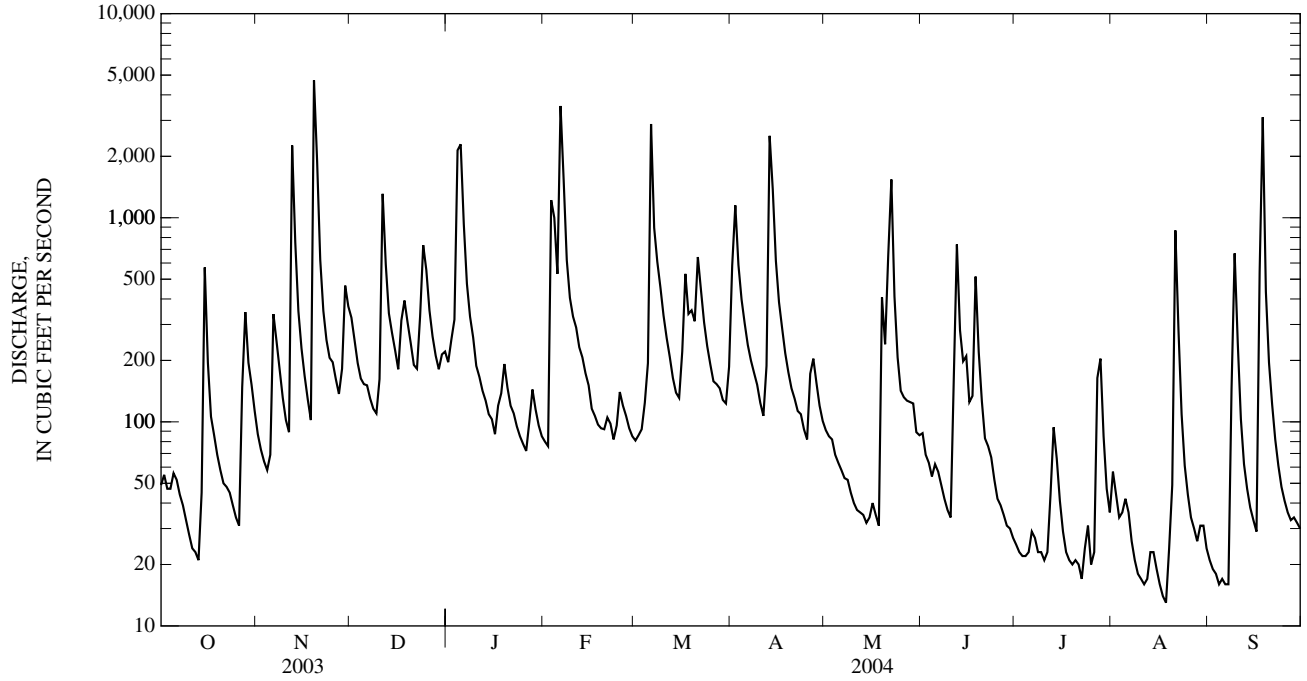
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1907 - 2004, BY WATER YEAR (WY)

MEAN	46.4	112	213	278	304	355	252	198	112	66.3	57.1	48.1
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)

03061500 BUFFALO CREEK AT BARRACKVILLE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1907 - 2004	
ANNUAL TOTAL	83,386.0		89,737			
ANNUAL MEAN	228		245		169	
HIGHEST ANNUAL MEAN					280	1994
LOWEST ANNUAL MEAN					80.3	1969
HIGHEST DAILY MEAN	4,710	Nov 19	4,710	Nov 19	5,710	Apr 12, 1948
LOWEST DAILY MEAN	9.2	Aug 26	13	Aug 18	0.00	(a)
ANNUAL SEVEN-DAY MINIMUM	13	Aug 20	18	Sep 1	0.00	Sep 4, 1908
MAXIMUM PEAK FLOW			9,460	Nov 19	10,400	Feb 19, 2000
MAXIMUM PEAK STAGE			14.08	Nov 19	(b)16.76	Feb 19, 2000
INSTANTANEOUS LOW FLOW			13	(c)	0.00	(d)
ANNUAL RUNOFF (CFSM)	1.97		2.11		1.46	
ANNUAL RUNOFF (INCHES)	26.74		28.78		19.79	
10 PERCENT EXCEEDS	540		531		402	
50 PERCENT EXCEEDS	106		110		60	
90 PERCENT EXCEEDS	29		24		5.4	

a Aug. 13-17, Sept. 4-28, Sept. 30 to Dec. 6, 1908.
b From floodmarks.
c Aug. 18-19.
d Greater part of period August to December 1908.
e Estimated.



REVISIONS.--The revised peak discharges for the 2001 to 2003 water years are given below. These revised discharges supercede discharges published in WDR WV-01-1, WDR WV-02-1, and WDR WV-03-1:

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 11, 2001	1700	4,250	9.94
Apr. 28, 2002	1530	4,750	10.42
Feb. 23, 2003	1000	5,710	11.26

03062500 DECKERS CREEK AT MORGANTOWN, WV

LOCATION.--Lat 39°37'45", long 79°57'10", NAD 27, Monongalia County, Hydrologic Unit 05020003, on left bank at Kingwood Street, in Morgantown, 0.6 mi. upstream from mouth.

DRAINAGE AREA.--63.2 mi^2.

PERIOD OF RECORD.--April 1914 to September 1915 (gage heights only), February 1946 to September 1969, October 2002 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 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.--Records good except those for periods of estimated daily discharges (ice effect), which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 18, 1980, reached a stage of 12.36 ft, from floodmarks, discharge 7,550 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	0800	1,200	4.00	Apr 13	1730	1,210	4.02
Nov 19	1430	*2,290	*5.77	May 22	0400	1,130	3.87
Feb 6	1130	1,230	4.05				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	95	177	155	e84	83	212	81	74	18	52	20
2	128	86	158	172	e80	87	463	78	69	15	50	16
3	107	79	139	193	304	98	386	85	68	13	34	13
4	111	71	126	523	330	110	338	79	62	12	24	11
5	121	102	121	683	233	138	266	73	93	12	22	9.4
6	104	209	118	543	1,000	729	208	68	101	11	19	8.5
7	90	190	107	345	975	572	173	63	83	9.8	15	9.9
8	78	158	98	253	590	434	146	58	64	9.1	12	83
9	68	129	93	204	396	328	129	54	49	8.3	10	304
10	59	111	113	160	290	265	106	49	41	7.5	8.9	308
11	53	101	448	134	241	215	91	43	48	6.8	9.0	172
12	48	799	365	118	202	180	103	46	131	13	8.8	110
13	44	571	249	103	175	146	662	44	163	12	10	82
14	68	367	212	89	151	122	757	33	175	9.8	11	62
15	104	251	185	83	129	110	490	35	127	8.8	9.9	47
16	79	199	156	70	109	114	320	104	99	7.6	8.6	36
17	69	162	178	68	90	172	237	85	135	6.4	7.5	47
18	77	136	156	126	77	161	186	78	135	5.9	6.6	299
19	71	1,230	134	150	73	191	150	345	136	11	31	359
20	65	934	120	122	81	188	127	390	114	16	35	227
21	60	536	106	109	144	347	109	380	86	13	350	141
22	57	373	102	e95	169	293	94	887	74	9.1	455	101
23	54	255	139	e85	140	218	88	488	76	7.9	247	77
24	49	210	451	e76	131	174	78	274	57	7.6	124	58
25	44	173	407	e120	139	143	68	180	44	6.9	76	46
26	43	143	272	140	124	117	115	125	37	7.0	51	37
27	100	123	204	146	108	104	145	96	33	51	40	31
28	137	160	165	139	94	97	125	87	28	125	32	32
29	127	217	142	114	86	85	104	94	26	65	27	45
30	121	188	168	e105	---	80	90	73	23	34	27	44
31	107	---	183	e93	---	86	---	63	---	29	25	---
TOTAL	2,580	8,358	5,792	5,516	6,745	6,187	6,566	4,638	2,451	568.5	1,838.3	2,835.8
MEAN	83.2	279	187	178	233	200	219	150	81.7	18.3	59.3	94.5
MAX	137	1,230	451	683	1,000	729	757	887	175	125	455	359
MIN	43	71	93	68	73	80	68	33	23	5.9	6.6	8.5
CFSM	1.32	4.41	2.96	2.82	3.68	3.16	3.46	2.37	1.29	0.29	0.94	1.50
IN.	1.52	4.92	3.41	3.25	3.97	3.64	3.86	2.73	1.44	0.33	1.08	1.67

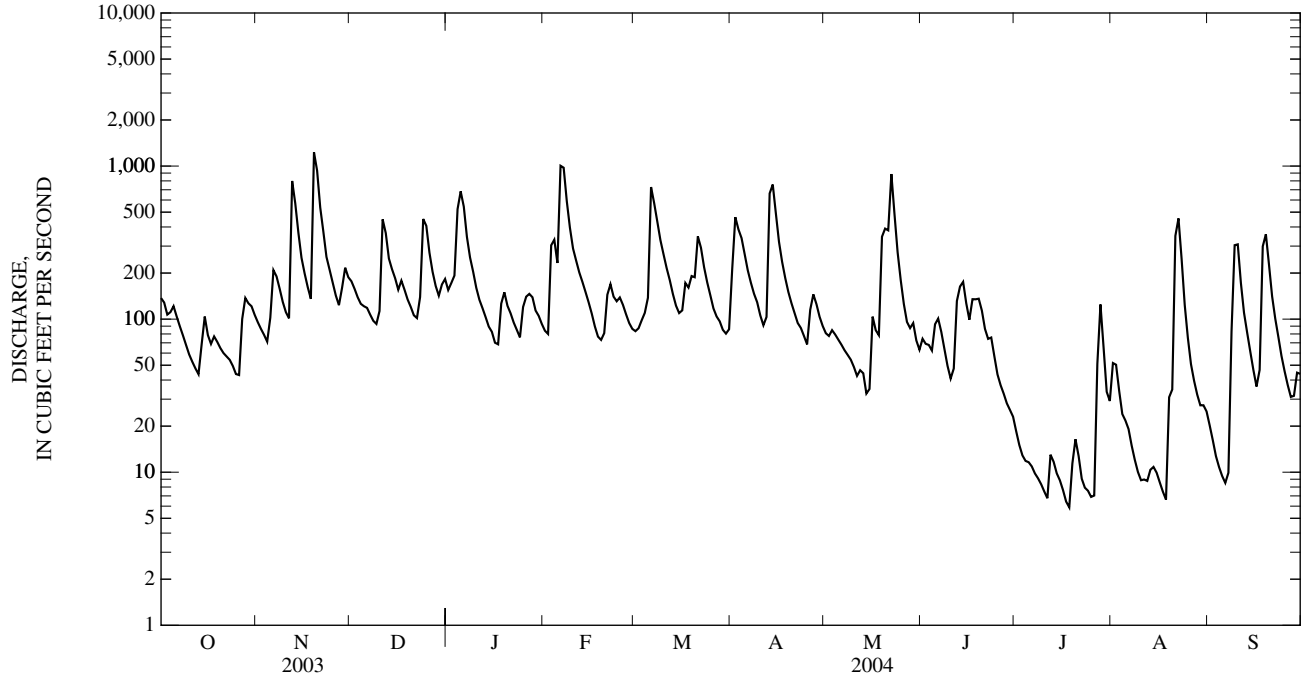
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2004, BY WATER YEAR (WY)

MEAN	23.1	62.1	133	169	177	215	154	121	73.9	46.2	46.8	28.6
MAX	155	279	282	337	337	474	353	279	254	201	309	294
(WY)	(1955)	(2004)	(1957)	(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)

03062500 DECKERS CREEK AT MORGANTOWN, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1946 - 2004	
ANNUAL TOTAL	78,469.7		54,075.6			
ANNUAL MEAN	215		148		105	
HIGHEST ANNUAL MEAN					193	2003
LOWEST ANNUAL MEAN					54.8	1966
HIGHEST DAILY MEAN	2,340	Sep 2	1,230	Nov 19	2,740	Aug 6, 1956
LOWEST DAILY MEAN	8.0	Jul 27	5.9	Jul 18	0.30	Sep 3, 1966
ANNUAL SEVEN-DAY MINIMUM	10	Aug 20	8.8	Jul 13	0.60	Sep 6, 1964
MAXIMUM PEAK FLOW			2,290	Nov 19	7,550	Aug 18, 1980
MAXIMUM PEAK STAGE			5.77	Nov 19	(a)12.36	Aug 18, 1980
INSTANTANEOUS LOW FLOW			5.6	(b)	(c)	(c)
ANNUAL RUNOFF (CFSM)	3.40		2.34		1.66	
ANNUAL RUNOFF (INCHES)	46.19		31.83		22.51	
10 PERCENT EXCEEDS	562		340		252	
50 PERCENT EXCEEDS	119		104		50	
90 PERCENT EXCEEDS	34		13		4.8	

a From floodmarks.
b July 18, 19.
c Unknown.
e Estimated.



03065000 DRY FORK AT HENDRICKS, WV

LOCATION.--Lat 39°04'20", long 79°37'23", NAD 27, Tucker County, Hydrologic Unit 05020004, on right bank at Hendricks, 0.4 mi upstream from confluence with Blackwater River.

DRAINAGE AREA.--349 mi^2.

PERIOD OF RECORD.--October 1940 to September 1993, October 1993 to September 1995 (gage heights only), October 1995 to current year.

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

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

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 19	1630	10,100	7.11	Mar 6	1100	8,560	6.59
Feb 6	1900	*11,000	*7.40	Sep 8	2200	10,100	7.10

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	525	658	976	1,110	e400	641	795	744	1,200	224	879	139
2	535	577	867	1,690	e640	2,000	1,060	672	928	194	539	105
3	435	508	734	3,700	944	3,230	1,100	1,220	730	171	398	77
4	463	449	675	3,480	1,380	5,450	1,660	969	590	237	317	63
5	605	577	630	2,880	1,110	4,270	1,400	827	567	226	309	56
6	511	1,150	588	2,360	7,180	7,110	1,180	703	556	197	271	50
7	440	1,150	514	1,610	6,290	4,410	1,570	591	446	161	208	47
8	378	959	436	1,240	2,590	2,660	2,910	550	368	152	166	1,840
9	328	778	461	1,020	1,570	1,780	2,730	476	316	137	140	2,960
10	292	654	489	793	1,180	1,350	1,830	412	318	128	121	1,090
11	261	586	2,760	615	932	1,130	1,390	364	1,390	618	107	589
12	235	4,430	1,980	e540	779	1,080	1,410	459	4,360	351	108	404
13	215	5,240	1,350	e490	674	911	3,490	905	1,680	833	215	304
14	214	2,430	1,100	e440	606	790	5,380	951	1,020	759	203	239
15	1,410	1,480	911	e400	539	919	2,840	729	1,230	521	140	197
16	1,250	1,070	703	e370	446	1,260	1,790	734	890	376	114	168
17	925	848	851	e340	467	1,810	1,290	667	1,080	281	102	158
18	844	685	879	647	426	1,440	986	864	3,870	243	98	2,190
19	698	4,220	775	854	403	1,950	787	2,760	2,840	272	86	1,030
20	589	5,100	701	e740	491	1,800	659	2,310	1,600	210	76	556
21	511	2,370	632	e620	1,480	4,490	588	1,890	1,000	165	142	399
22	471	1,530	687	e540	1,330	2,630	516	2,930	798	144	190	307
23	469	1,120	982	e470	960	1,680	471	1,780	962	167	143	244
24	409	917	3,070	e400	851	1,270	566	1,140	683	167	102	199
25	350	850	2,560	e360	729	1,080	648	801	525	126	81	172
26	320	686	1,640	e430	633	1,000	3,550	900	563	118	68	154
27	529	601	1,190	e520	571	912	3,100	1,400	466	2,270	62	140
28	1,290	699	977	572	516	835	1,810	4,450	368	1,000	57	1,220
29	1,060	1,230	895	519	547	700	1,220	3,290	315	533	54	2,220
30	949	1,010	1,250	e470	---	630	920	1,870	267	358	62	1,090
31	770	---	1,350	435	---	642	---	1,340	---	344	171	---
TOTAL	18,281	44,562	33,613	30,655	36,664	61,860	49,646	39,698	31,926	11,683	5,729	18,407
MEAN	590	1,485	1,084	989	1,264	1,995	1,655	1,281	1,064	377	185	614
MAX	1,410	5,240	3,070	3,700	7,180	7,110	5,380	4,450	4,360	2,270	879	2,960
MIN	214	449	436	340	400	630	471	364	267	118	54	47
CFSM	1.69	4.26	3.11	2.83	3.62	5.72	4.74	3.67	3.05	1.08	0.53	1.76
IN.	1.95	4.75	3.58	3.27	3.91	6.59	5.29	4.23	3.40	1.25	0.61	1.96

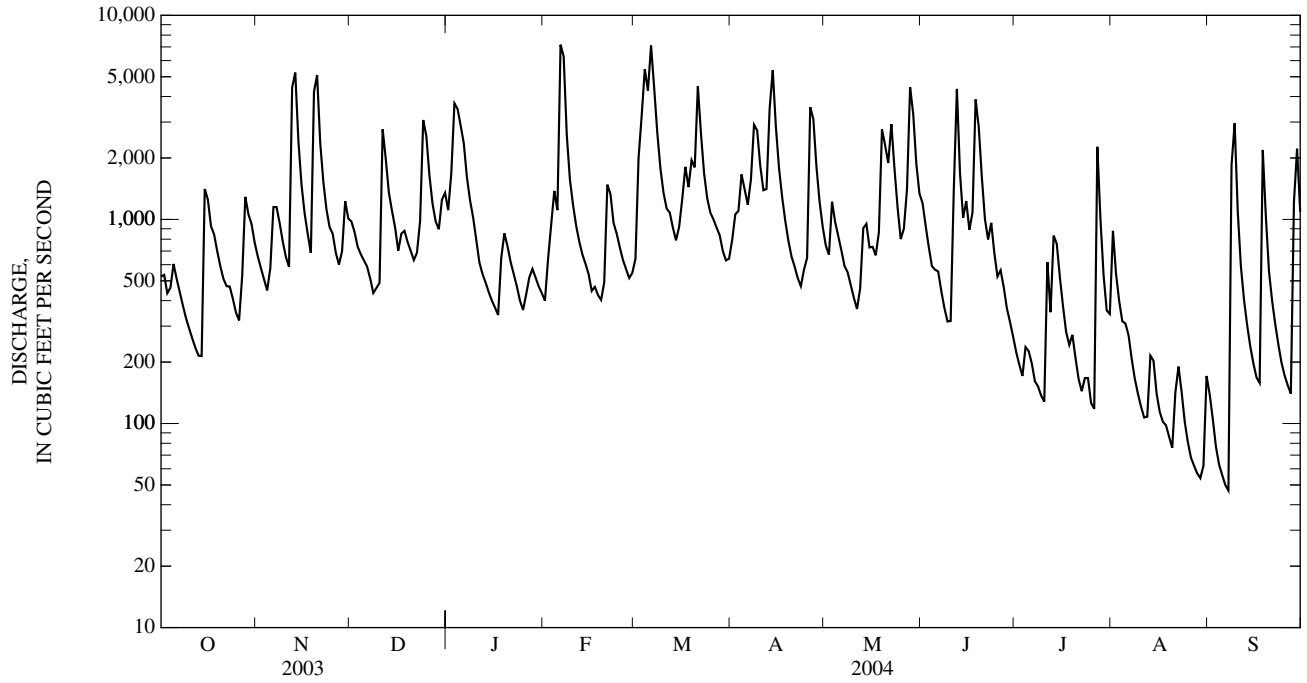
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2004, BY WATER YEAR (WY)

MEAN	364	679	947	1,026	1,203	1,556	1,219	930	550	388	337	278
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	588	373	236	67.3	32.1	23.7	11.6
(WY)	(1954)	(1954)	(2002)	(1977)	(1978)	(1990)	(1946)	(1970)	(1991)	(1993)	(1957)	(1946)

03065000 DRY FORK AT HENDRICKS, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1941 - 2004	
ANNUAL TOTAL	423,557		382,724			
ANNUAL MEAN	1,160		1,046		787	
HIGHEST ANNUAL MEAN					1,435	1996
LOWEST ANNUAL MEAN					510	1959
HIGHEST DAILY MEAN	12,700	Sep 19	7,180	Feb 6	34,000	Nov 5, 1985
LOWEST DAILY MEAN	93	Jul 27	47	Sep 7	2.4	(a)
ANNUAL SEVEN-DAY MINIMUM	116	Aug 1	69	Aug 24	3.5	Aug 28, 1993
MAXIMUM PEAK FLOW			11,000	Feb 6	(b)100,000	Nov 5, 1985
MAXIMUM PEAK STAGE			7.40	Feb 6	(c)20.74	Nov 5, 1985
INSTANTANEOUS LOW FLOW			47	(d)	2.2	Sep 1, 1993
ANNUAL RUNOFF (CFSM)	3.33		3.00		2.25	
ANNUAL RUNOFF (INCHES)	45.15		40.79		30.64	
10 PERCENT EXCEEDS	2,750		2,470		1,830	
50 PERCENT EXCEEDS	732		686		430	
90 PERCENT EXCEEDS	186		164		65	

a Sept. 1, 2, 1993.
b From rating curve extended above 47,000 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks.
d Sept. 7, 8.
e Estimated.



03065400 BLACKWATER RIVER NEAR DAVIS, WV

LOCATION.--Lat 39°08'24", long 79°25'12", NAD 27, Tucker County, 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 mi^2.

PERIOD OF RECORD.--November 1991 to September 1998, October 2002 to current year.

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

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is approximately 3,130 ft above NGVD 29, from topographic map.

REMARKS.--Records good except those above 500 ft^3/s, which are fair, and those for periods of estimated daily discharges (ice effect, no gage-height record), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	0830	1,010	4.94	Mar 5	0200	1,210	5.54
Feb 7	1530	*1,430	*6.22	Mar 7	0200	1,230	5.61

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	87	142	148	e77	117	144	125	172	41	170	e13
2	120	78	e125	271	e74	346	202	119	139	39	103	e11
3	92	72	e115	580	e110	618	175	214	110	48	56	10
4	114	65	99	588	192	870	229	153	90	112	42	9.3
5	126	88	90	474	184	1,080	193	119	95	132	63	9.1
6	92	195	88	410	651	995	172	109	90	69	51	8.7
7	76	177	e84	234	e1,350	1,090	276	101	70	48	38	9.2
8	67	128	e74	227	e1,300	610	524	140	56	43	34	94
9	61	102	71	178	e1,050	344	495	97	49	37	30	630
10	57	90	88	e160	e640	257	355	78	44	35	28	346
11	52	90	408	e150	e400	214	250	70	99	39	24	149
12	49	548	286	e130	e270	209	252	68	558	35	24	90
13	47	942	162	e105	e220	165	449	73	396	46	37	65
14	49	523	e115	e88	e200	154	540	103	171	48	34	49
15	263	252	e140	e75	e180	210	399	69	130	36	28	41
16	203	192	e145	e64	e150	203	249	61	104	31	24	35
17	122	162	e145	e57	e120	273	192	54	111	27	21	42
18	133	133	e140	e80	e100	213	158	51	286	26	20	387
19	108	344	e130	e115	e72	337	135	298	428	23	19	327
20	87	829	e115	e92	e110	285	118	285	314	21	18	126
21	77	451	e98	e74	e240	572	107	212	150	20	23	82
22	76	225	e130	e66	e220	510	95	337	117	19	45	62
23	100	171	e190	e59	e180	289	92	219	146	32	30	49
24	84	150	430	e53	e140	234	113	141	122	26	21	42
25	70	155	378	e48	e120	206	146	111	83	21	17	39
26	63	126	260	e58	e110	173	465	159	82	20	15	39
27	114	109	220	e70	e95	160	485	242	70	154	13	38
28	187	131	183	e92	91	152	279	666	57	97	13	154
29	137	227	136	e88	96	129	183	590	51	47	e14	388
30	128	163	200	e83	---	113	146	274	46	35	e17	196
31	101	---	194	e80	---	122	---	179	---	73	e15	---
TOTAL	3,179	7,005	5,181	4,997	8,742	11,250	7,618	5,517	4,436	1,480	1,087	3,540.3
MEAN	103	234	167	161	301	363	254	178	148	47.7	35.1	118
MAX	263	942	430	588	1,350	1,090	540	666	558	154	170	630
MIN	47	65	71	48	72	113	92	51	44	19	13	8.7
CFSM	1.87	4.27	3.06	2.95	5.51	6.63	4.64	3.25	2.70	0.87	0.64	2.16
IN.	2.16	4.76	3.52	3.40	5.95	7.65	5.18	3.75	3.02	1.01	0.74	2.41

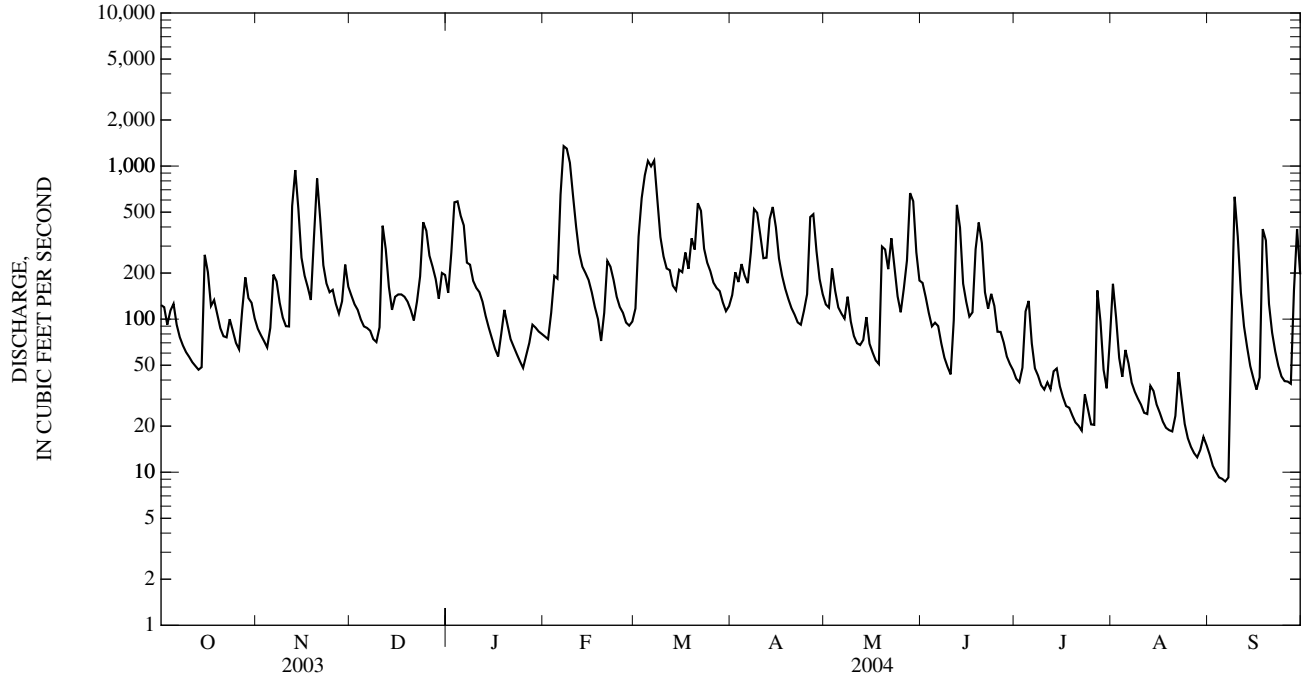
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2004, BY WATER YEAR (WY)

MEAN	54.5	142	177	203	253	332	193	188	98.4	96.8	82.9	84.4
MAX	108	234	244	378	486	461	350	406	226	236	211	284
(WY)	(1997)	(2004)	(1997)	(1996)	(1994)	(2003)	(1993)	(1996)	(2003)	(2001)	(1996)	(2003)
MIN	9.93	30.8	123	110	69.5	146	88.5	65.5	29.1	9.48	7.10	10.8
(WY)	(1995)	(1992)	(1995)	(2003)	(1993)	(1995)	(1995)	(1993)	(1994)	(1993)	(1993)	(1995)

03065400 BLACKWATER RIVER NEAR DAVIS, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1992 - 2004	
ANNUAL TOTAL	79,537.0		64,032.3			
ANNUAL MEAN	218		175		163	
HIGHEST ANNUAL MEAN					220	1996
LOWEST ANNUAL MEAN					101	1995
HIGHEST DAILY MEAN	1,670	Sep 19	(e)1,350	Feb 7	(e)3,800	Feb 9, 1994
LOWEST DAILY MEAN	22	Jan 28	8.7	Sep 6	4.0	Aug 30, 1993
ANNUAL SEVEN-DAY MINIMUM	25	Jan 22	10	Sep 1	4.9	Aug 28, 1993
MAXIMUM PEAK FLOW			1,430	Feb 7	4,050	Feb 9, 1994
MAXIMUM PEAK STAGE			6.22	Feb 7	(a)10.51	Jan 19, 1996
INSTANTANEOUS LOW FLOW			8.7	(b)	4.0	(c)
ANNUAL RUNOFF (CFSM)	3.98		3.20		2.97	
ANNUAL RUNOFF (INCHES)	54.09		43.55		40.38	
10 PERCENT EXCEEDS	493		399		395	
50 PERCENT EXCEEDS	132		115		98	
90 PERCENT EXCEEDS	47		31		15	

a From floodmarks.
b Sept. 4-7.
c July 25, 26, Aug. 29-31, 1993.
e Estimated.



REVISIONS FOR THE 1993 TO 1995 WATER YEARS.--The revised peak discharges greater than 1,500 ft^3/s during the 1993 to 1995 water years are given below. These figures supercede those published in WDR WV 93-1, WDR WV 94-1, and WDR WV 95-1.

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr 1, 1993	2000	1,400	6.14
Feb 9, 1994	1200	3,690	10.48
May 8, 1994	1000	2,020	7.73
Aug. 7, 1995	0500	1,420	6.17

03066000 BLACKWATER RIVER AT DAVIS, WV

LOCATION.--Lat 39°07'37", long 79°28'07", NAD 27, Tucker County, 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 mi^2.

PERIOD OF RECORD.--April 1921 to current year.

REVISED RECORDS.--WSP 583: 1921-23. WSP 803: Drainage area. 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.

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

REMARKS.--Records good except those for periods of estimated daily discharges (no gage-height record, ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	1900	1,870	7.07	Mar 6	1900	1,920	7.17
Feb 6	1800	*2,360	*7.99	May 28	0400	1,500	6.30
Mar 4	2200	2,030	7.38				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e210	137	222	236	e115	189	223	165	263	56	366	22
2	e200	127	172	504	e110	665	320	165	210	51	182	20
3	e160	117	168	995	211	984	271	312	163	80	97	17
4	e180	108	145	893	271	1,650	365	206	137	254	72	16
5	e215	159	137	784	231	1,570	292	153	145	351	151	16
6	e170	313	136	639	1,530	1,720	261	136	137	142	106	15
7	e140	281	126	364	2,020	1,510	498	136	108	83	70	16
8	121	200	e110	314	e1,730	842	907	219	87	69	56	231
9	109	157	116	278	e1,200	506	808	139	77	57	48	1,100
10	103	140	165	228	829	380	542	110	70	54	41	482
11	95	140	711	230	535	322	377	98	237	60	37	191
12	90	1,360	425	194	377	316	408	96	1,080	53	41	105
13	85	1,340	252	162	315	247	767	101	538	74	77	76
14	96	702	169	e140	305	232	829	152	255	74	58	61
15	421	372	216	e115	262	321	578	98	186	54	42	54
16	294	292	219	e96	214	331	364	84	151	44	36	48
17	182	252	219	e84	166	405	282	75	160	38	31	59
18	202	205	211	e120	146	319	231	74	481	37	27	758
19	163	726	198	e180	106	534	192	573	545	34	27	477
20	137	1,180	168	e140	e130	443	164	418	398	31	28	188
21	125	616	e150	e115	e360	1,050	148	303	206	29	38	123
22	126	334	192	e97	e330	723	131	565	173	29	68	95
23	153	261	302	e87	e260	429	127	314	210	46	44	79
24	138	235	651	e77	213	357	152	192	168	37	30	68
25	116	244	568	e70	179	319	211	147	116	30	24	61
26	106	191	369	e84	163	269	791	228	114	55	21	56
27	207	164	285	e105	142	247	674	350	98	419	19	52
28	293	238	250	e150	142	232	381	1,270	77	194	18	289
29	219	370	217	e135	145	188	251	773	74	86	18	586
30	200	258	356	e125	---	162	197	383	64	58	27	275
31	156	---	314	e120	---	177	---	269	---	157	25	---
TOTAL	5,212	11,219	7,939	7,861	12,737	17,639	11,742	8,304	6,728	2,836	1,925	5,636
MEAN	168	374	256	254	439	569	391	268	224	91.5	62.1	188
MAX	421	1,360	711	995	2,020	1,720	907	1,270	1,080	419	366	1,100
MIN	85	108	110	70	106	162	127	74	64	29	18	15
CFSM	1.96	4.35	2.98	2.95	5.11	6.62	4.56	3.12	2.61	1.07	0.72	2.19
IN.	2.26	4.86	3.44	3.40	5.52	7.64	5.09	3.60	2.91	1.23	0.83	2.44

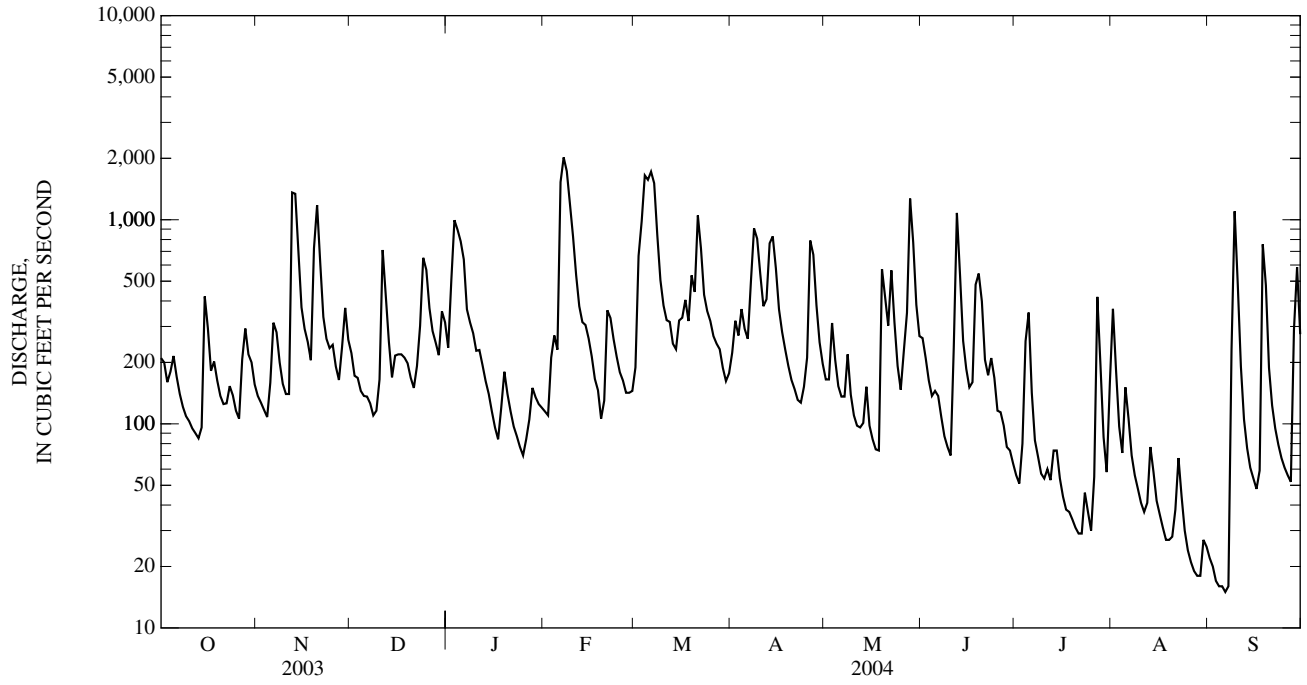
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2004, BY WATER YEAR (WY)

MEAN	107	171	244	270	322	393	298	224	144	107	101	78.9
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)

03066000 BLACKWATER RIVER AT DAVIS, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1921 - 2004	
ANNUAL TOTAL	124,850		99,778			
ANNUAL MEAN	342		273		204	
HIGHEST ANNUAL MEAN					362	1996
LOWEST ANNUAL MEAN					125	1959
HIGHEST DAILY MEAN	(e)4,000	Sep 19	2,020	Feb 7	9,470	Nov 5, 1985
LOWEST DAILY MEAN	35	Jul 27	15	Sep 6	1.6	Sep 11, 1959
ANNUAL SEVEN-DAY MINIMUM	40	Jan 22	17	Sep 1	2.4	Oct 1, 1953
MAXIMUM PEAK FLOW			2,360	Feb 6	(a)12,500	Nov 5, 1985
MAXIMUM PEAK STAGE			7.99	Feb 6	(b)17.67	Nov 5, 1985
INSTANTANEOUS LOW FLOW			15	(c)	(d)1.5	(f)
ANNUAL RUNOFF (CFSM)	3.98		3.17		2.38	
ANNUAL RUNOFF (INCHES)	54.07		43.21		32.32	
10 PERCENT EXCEEDS	768		623		481	
50 PERCENT EXCEEDS	213		172		113	
90 PERCENT EXCEEDS	74		47		19	

a From rating curve extended above 7,000 ft^3/s.
b From floodmarks.
c Sept. 5-7.
d Caused by filling small water-supply pool about 1.0 mi upstream.
e Estimated.
f Sept. 11, 12, 1959.



03067510 SHAVERS FORK NEAR CHEAT BRIDGE, WV

LOCATION.--Lat 38°37'01", long 79°52'12", NAD 27, Randolph County, Hydrologic Unit 05020004, on left downstream wingwall, on US Route 250 at Cheat Bridge, 1.8 mi downstream from Fish Hatchery Run, and at mile 65.5.

DRAINAGE AREA.--60.16 mi^2.

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 3,536.56 ft above NGVD 29.

REMARKS.--Records good except those for periods of estimated daily discharges (no gage-height record, ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s (revised) and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	2300	3,660	11.75	Apr 13	1700	4,820	12.85
Nov 19	1300	*7,600	*15.57	Apr 26	1400	1,680	9.13
Dec 11	0100	1,830	9.37	May 28	0600	3,530	11.60
Feb 6	2100	unknown	(a)11.85	Sep 8	1900	5,690	13.72
Mar 6	0700	3,380	11.43	Sep 18	0600	2,200	9.91
Mar 21	0500	2,070	9.73	Sep 28	1600	3,970	12.07
Apr 12	2000	2,800	10.71				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	114	157	146	e70	202	253	135	219	36	126	21
2	84	103	124	436	e90	531	200	250	184	33	78	15
3	72	94	e115	992	e115	527	172	484	138	30	149	13
4	81	85	e105	1,150	e100	913	214	221	120	31	69	12
5	101	106	e100	830	e90	1,090	167	171	221	34	73	12
6	81	218	e92	456	e500	2,240	147	142	203	33	82	14
7	70	212	e85	306	e1,000	805	210	122	140	27	53	13
8	64	150	e80	e220	e350	421	388	108	110	33	41	1,540
9	60	121	92	e180	e260	274	395	99	94	24	34	1,260
10	59	106	197	e150	e190	212	259	86	116	78	28	324
11	55	106	816	e130	e160	178	243	78	129	104	25	178
12	52	1,330	e300	e120	e140	162	886	75	255	101	27	126
13	50	1,170	e230	e110	e120	134	2,280	83	140	58	47	95
14	77	336	e190	e100	e110	131	1,310	e83	120	48	35	76
15	606	226	e160	e90	e95	186	489	e77	209	41	26	63
16	231	185	e140	e80	e86	353	337	e72	127	33	82	54
17	160	158	e170	e96	e80	375	255	e84	166	27	52	118
18	166	136	e150	e115	e76	222	211	97	136	67	32	1,320
19	132	3,040	e125	e125	e84	299	185	318	119	123	25	363
20	112	821	e110	e95	e100	245	173	192	93	54	22	193
21	100	349	e100	e86	e180	1,130	174	475	74	37	38	136
22	97	242	e120	e83	e150	374	141	591	69	30	69	105
23	90	192	e250	e78	e130	242	135	238	67	34	35	85
24	81	173	686	e76	e115	199	148	165	61	50	25	71
25	75	168	284	e88	e100	201	131	140	87	32	20	64
26	71	138	184	e98	e92	262	1,020	294	104	25	17	57
27	337	125	154	e105	e87	360	446	406	66	36	16	53
28	292	251	156	e92	e84	419	255	1,700	52	48	16	1,530
29	191	e300	142	e86	e92	278	191	434	46	33	15	779
30	163	e200	208	e80	---	229	156	254	40	26	21	286
31	132	---	172	e74	---	236	---	226	---	59	24	---
TOTAL	4,031	10,955	5,994	6,873	4,846	13,430	11,571	7,900	3,705	1,425	1,402	8,976
MEAN	130	365	193	222	167	433	386	255	124	46.0	45.2	299
MAX	606	3,040	816	1,150	1,000	2,240	2,280	1,700	255	123	149	1,540
MIN	50	85	80	74	70	131	131	72	40	24	15	12
CFSM	2.16	6.07	3.21	3.68	2.78	7.20	6.41	4.23	2.05	0.76	0.75	4.97
IN.	2.49	6.77	3.70	4.25	2.99	8.30	7.15	4.88	2.29	0.88	0.87	5.55

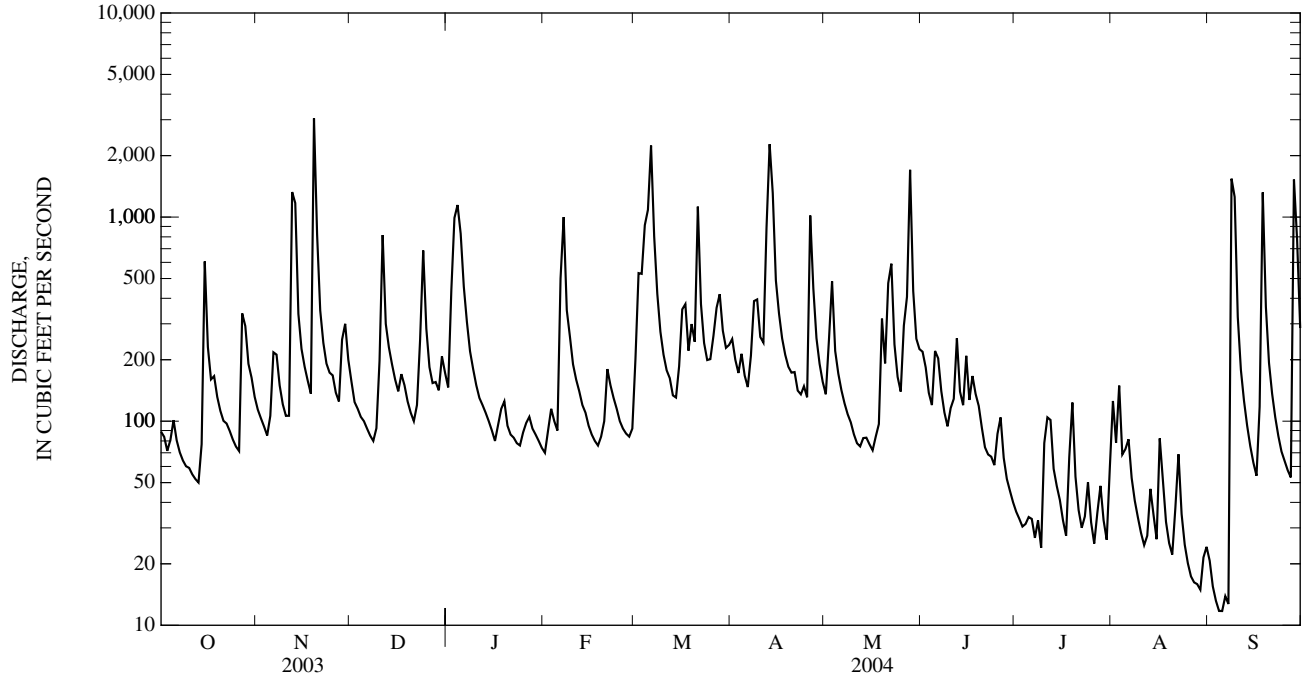
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)

MEAN	120	215	147	178	185	409	363	285	167	120	52.2	219
MAX	218	365	193	222	285	523	386	305	321	213	73.6	299
(WY)	(2003)	(2004)	(2004)	(2004)	(2003)	(2003)	(2004)	(2003)	(2003)	(2002)	(2003)	(2004)
MIN	12.4	13.9	66.8	138	105	272	327	255	56.2	46.0	37.6	82.1
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2003)	(2004)	(2002)	(2004)	(2002)	(2002)

03067510 SHAVERS FORK NEAR CHEAT BRIDGE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2002 - 2004	
ANNUAL TOTAL	93,095		81,108			
ANNUAL MEAN	255		222		205	
HIGHEST ANNUAL MEAN					253	2003
LOWEST ANNUAL MEAN					139	2002
HIGHEST DAILY MEAN	3,040	Nov 19	3,040	Nov 19	3,040	Nov 19, 2003
LOWEST DAILY MEAN	25	Aug 26	12	(b)	4.2	Sep 13, 2002
ANNUAL SEVEN-DAY MINIMUM	31	Jan 22	14	Sep 1	5.3	Sep 9, 2002
MAXIMUM PEAK FLOW			7,600	Nov 19	7,600	Nov 19, 2003
MAXIMUM PEAK STAGE			15.57	Nov 19	15.57	Nov 19, 2003
INSTANTANEOUS LOW FLOW			11	(b)	4.1	(c)
ANNUAL RUNOFF (CFSM)	4.24		3.68		3.40	
ANNUAL RUNOFF (INCHES)	57.53		50.12		46.20	
10 PERCENT EXCEEDS	519		435		433	
50 PERCENT EXCEEDS	156		122		116	
90 PERCENT EXCEEDS	47		34		22	

a Ice affected stage.
b Sept. 4, 5.
c Sept. 13, 14, 2002.
e Estimated.



03068800 SHAVERS FORK BELOW BOWDEN, WV

LOCATION.--Lat 38°54'47", long 79°46'14", NAD 27, Randolph County, Hydrologic Unit 05020004, on upstream side of right pier, on County Route 33/8 bridge, 3.0 mi west of Bowden, and at mile 26.4.

DRAINAGE AREA.--151 mi^2.

PERIOD OF RECORD.--August 1973 to September 1981, October 1997 to current year. 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 2,120 ft above NGVD 29, from topographic map.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect, doubtful gage-height record), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	0500	7,420	9.26	Apr 13	2200	10,700	10.14
Nov 19	1800	*22,900	*12.37	May 28	1000	6,970	9.12
Feb 7	0200	3,800	7.90	Sep 8	2400	8,730	9.64
Mar 6	1000	8,230	9.50	Sep 18	1100	4,180	8.08
Apr 13	0200	4,180	8.08	Sep 28	2000	6,540	8.98

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	347	332	441	472	e185	258	641	380	669	115	169	133
2	359	292	382	805	e210	628	640	356	540	100	199	81
3	288	261	311	2,080	290	1,260	571	788	416	89	174	60
4	287	235	294	2,360	298	1,880	715	538	333	106	191	48
5	381	302	291	2,120	231	2,220	585	403	341	103	145	40
6	321	718	278	1,470	e1,200	5,300	486	340	433	99	149	35
7	268	702	244	874	2,540	2,350	627	296	329	90	138	32
8	235	547	205	613	994	1,280	1,200	272	254	79	102	615
9	211	424	223	530	629	858	1,290	241	211	68	83	2,780
10	191	352	255	414	502	647	879	214	193	248	70	803
11	174	312	1,650	333	410	533	690	192	367	507	61	412
12	158	1,950	864	328	349	484	809	188	944	262	62	317
13	147	3,710	562	304	313	403	4,300	190	512	630	129	234
14	156	1,130	474	266	276	354	3,910	203	357	425	130	186
15	831	722	398	243	243	399	1,440	196	454	283	92	152
16	694	555	343	204	221	616	989	192	353	211	71	128
17	435	451	431	217	206	1,030	733	220	382	164	104	118
18	384	372	402	275	198	677	583	488	628	174	94	2,150
19	337	7,300	332	318	195	859	478	1,010	611	301	66	1,020
20	284	2,820	294	253	231	712	412	877	390	237	55	507
21	248	1,090	256	223	443	2,120	381	836	278	157	63	343
22	232	744	260	212	442	1,170	336	1,780	292	122	121	260
23	229	569	407	e200	326	739	296	837	323	107	120	209
24	204	478	1,300	e190	311	606	345	547	249	117	75	173
25	184	452	1,070	224	274	e560	349	403	277	120	56	148
26	171	374	651	239	240	e520	2,180	467	398	106	45	131
27	301	328	500	263	220	638	1,530	1,080	280	509	39	118
28	900	372	439	242	218	911	816	3,650	200	251	36	1,680
29	541	778	423	218	218	665	587	1,720	162	186	39	1,990
30	490	526	578	e205	---	537	458	883	135	139	74	741
31	395	---	590	e195	---	511	---	721	---	122	273	---
TOTAL	10,383	29,198	15,148	16,890	12,413	31,725	29,256	20,508	11,311	6,227	3,225	15,644
MEAN	335	973	489	545	428	1,023	975	662	377	201	104	521
MAX	900	7,300	1,650	2,360	2,540	5,300	4,300	3,650	944	630	273	2,780
MIN	147	235	205	190	185	258	296	188	135	68	36	32
CFSM	2.22	6.45	3.24	3.61	2.83	6.78	6.46	4.38	2.50	1.33	0.69	3.45
IN.	2.56	7.19	3.73	4.16	3.06	7.82	7.21	5.05	2.79	1.53	0.79	3.85

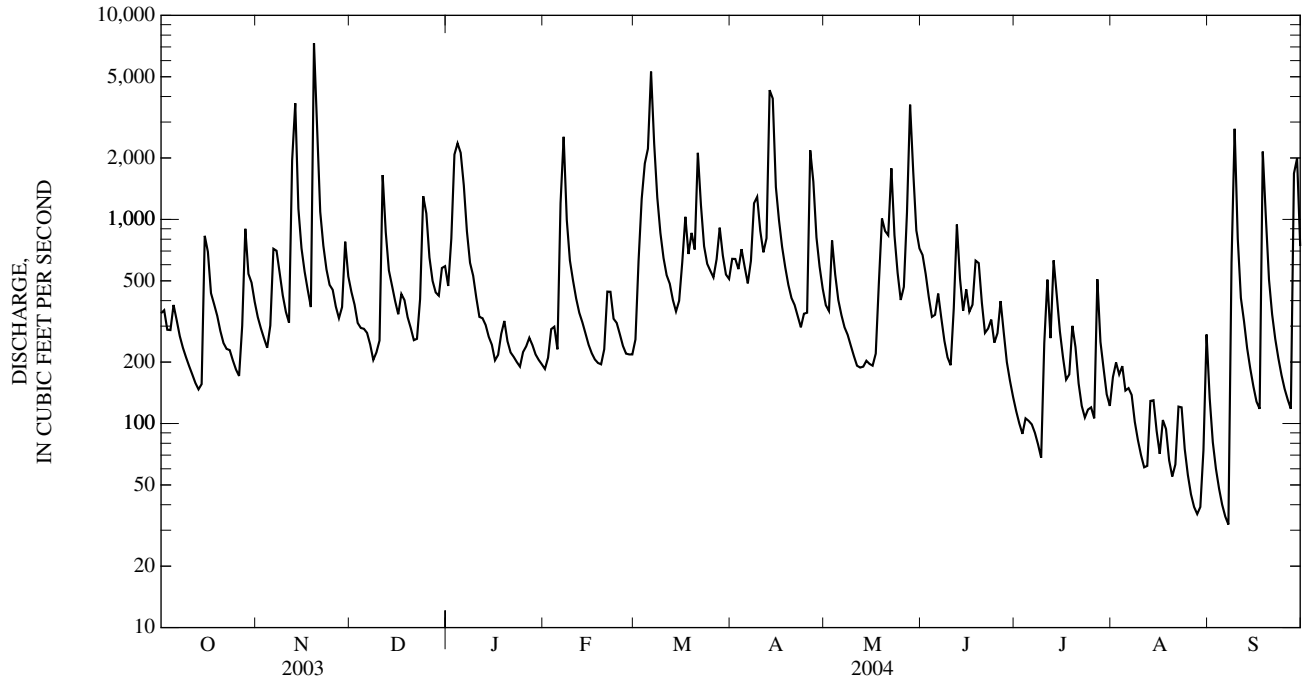
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2004, BY WATER YEAR (WY)

MEAN	287	377	470	527	561	813	674	522	431	275	204	242
MAX	913	973	952	1,095	1,054	1,261	1,162	918	978	460	438	724
(WY)	(1977)	(2004)	(1974)	(1999)	(2000)	(2003)	(2002)	(2003)	(1974)	(1980)	(1979)	(2003)
MIN	31.6	32.1	177	77.8	121	422	264	201	63.3	43.2	25.8	37.4
(WY)	(2002)	(2002)	(2002)	(1977)	(1978)	(1976)	(1976)	(1977)	(1999)	(1999)	(1999)	(1999)

03068800 SHAVERS FORK BELOW BOWDEN, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1973 - 2004	
ANNUAL TOTAL	231,670		201,928			
ANNUAL MEAN	635		552		449	
HIGHEST ANNUAL MEAN					637	2003
LOWEST ANNUAL MEAN					321	1976
HIGHEST DAILY MEAN	7,300	Nov 19	7,300	Nov 19	9,010	Feb 19, 2000
LOWEST DAILY MEAN	71	(a)	32	Sep 7	9.5	Sep 14, 2002
ANNUAL SEVEN-DAY MINIMUM	79	Jan 22	52	Aug 24	11	Sep 10, 2002
MAXIMUM PEAK FLOW			22,900	Nov 19	(b)22,900	Nov 19, 2003
MAXIMUM PEAK STAGE			12.37	Nov 19	12.37	Nov 19, 2003
INSTANTANEOUS LOW FLOW			31	(c)	9.1	(d)
ANNUAL RUNOFF (CFSM)	4.20		3.65		2.97	
ANNUAL RUNOFF (INCHES)	57.07		49.75		40.36	
10 PERCENT EXCEEDS	1,330		1,080		970	
50 PERCENT EXCEEDS	402		334		270	
90 PERCENT EXCEEDS	118		116		63	

a Jan. 28 (estimated for ice effect), July 27.
b From rating curve extended above 6,700 ft^3/s.
c Sept. 7, 8.
d Sept. 14, 15, 2002.
e Estimated.



03069500 CHEAT RIVER NEAR PARSONS, WV

LOCATION.--Lat 39°07'22", long 79°40'53", NAD 27, Tucker County, 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 mi^2.

PERIOD OF RECORD.--January 1913 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 893: Drainage area. 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 mean sea level, adjustment of 1912. 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.--Records good except those for periods of estimated daily discharges (ice effect), which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD--Flood of 1844 was about 85,000 ft^3/s. Flood of July 10, 1888, reached a stage of 20.5 ft, discharge, 71,000 ft^3/s, from floodmarks, at site and datum in use prior to Aug. 17, 1944; it was not exceeded until flood of Oct. 15, 1954, which reached a stage 0.3 ft higher at that site and datum.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	1700	18,100	10.33	Mar 6	1100	22,900	11.36
Nov 19	2300	*31,100	*12.87	Apr 14	0300	19,400	10.61
Feb 6	2300	23,800	11.53	May 28	1400	16,400	9.92

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,370	1,400	2,230	2,370	e880	1,220	2,050	1,590	2,610	463	1,990	414
2	1,480	1,220	1,920	3,580	e840	3,550	2,940	1,410	2,070	408	1,310	271
3	1,170	1,070	1,600	8,320	2,930	6,800	2,830	2,590	1,610	386	882	193
4	1,170	945	1,450	8,360	3,830	11,500	4,100	2,190	1,280	666	721	154
5	1,550	1,190	1,370	7,570	2,900	10,300	3,210	1,700	1,190	1,050	771	133
6	1,320	3,000	1,300	6,310	15,000	19,000	2,590	1,440	1,280	585	681	116
7	1,080	2,960	1,140	3,810	15,300	11,300	3,360	1,210	1,050	433	524	103
8	917	2,340	952	2,650	6,480	6,450	6,590	1,250	805	367	417	1,650
9	792	1,800	972	2,250	3,900	4,250	6,390	1,010	664	321	341	8,300
10	710	1,490	1,070	1,670	2,880	3,130	4,330	837	621	291	288	3,320
11	644	1,310	5,960	1,250	2,230	2,590	3,170	726	2,350	1,340	250	1,570
12	588	10,500	4,510	e1,050	1,810	2,400	3,000	752	9,940	838	259	984
13	543	13,600	2,870	e940	1,560	2,020	9,260	1,380	3,810	2,090	504	720
14	521	5,860	2,290	e840	1,370	1,730	13,800	1,470	2,120	1,930	510	554
15	2,690	3,500	1,940	e740	1,200	1,980	6,530	1,180	2,090	1,160	372	458
16	2,930	2,550	1,570	692	987	2,710	4,170	1,090	2,290	790	287	390
17	1,920	2,050	1,850	633	914	4,450	2,980	1,030	2,550	584	240	351
18	1,690	1,670	2,020	1,090	884	3,240	2,300	1,390	9,060	516	260	4,740
19	1,470	10,200	1,730	1,470	827	4,280	1,850	5,490	5,930	570	223	3,470
20	1,220	13,900	1,500	1,100	970	3,900	1,550	4,940	3,280	615	194	1,590
21	1,040	5,520	1,250	874	2,780	9,440	1,390	3,630	1,970	431	309	1,030
22	950	3,410	1,260	e780	2,780	6,100	1,220	6,760	1,520	348	478	752
23	983	2,490	2,200	700	1,950	3,740	1,080	3,920	1,930	382	394	593
24	886	2,040	6,950	653	1,710	2,840	1,240	2,380	1,430	393	283	487
25	760	1,950	5,950	e600	1,500	2,410	1,350	1,670	1,050	324	208	419
26	691	1,620	3,500	e630	1,300	2,250	7,550	1,750	1,290	314	167	373
27	957	1,400	2,470	678	1,150	2,120	7,360	3,270	1,090	3,810	145	336
28	2,860	1,920	2,040	1,580	1,030	2,300	3,950	11,900	778	2,150	132	1,680
29	2,240	3,600	1,890	e1,150	1,060	1,930	2,600	7,850	644	1,120	122	6,600
30	2,040	2,580	2,780	e1,000	---	1,620	1,970	4,090	544	714	182	2,670
31	1,660	---	3,060	e940	---	1,590	---	2,820	---	788	455	---
TOTAL	40,842	109,085	73,594	66,280	82,952	143,140	116,710	84,715	68,846	26,177	13,899	44,421
MEAN	1,317	3,636	2,374	2,138	2,860	4,617	3,890	2,733	2,295	844	448	1,481
MAX	2,930	13,900	6,950	8,360	15,300	19,000	13,800	11,900	9,940	3,810	1,990	8,300
MIN	521	945	952	600	827	1,220	1,080	726	544	291	122	103
CFSM	1.82	5.04	3.29	2.96	3.96	6.40	5.39	3.78	3.18	1.17	0.62	2.05
IN.	2.10	5.62	3.79	3.41	4.27	7.38	6.01	4.36	3.55	1.35	0.72	2.29

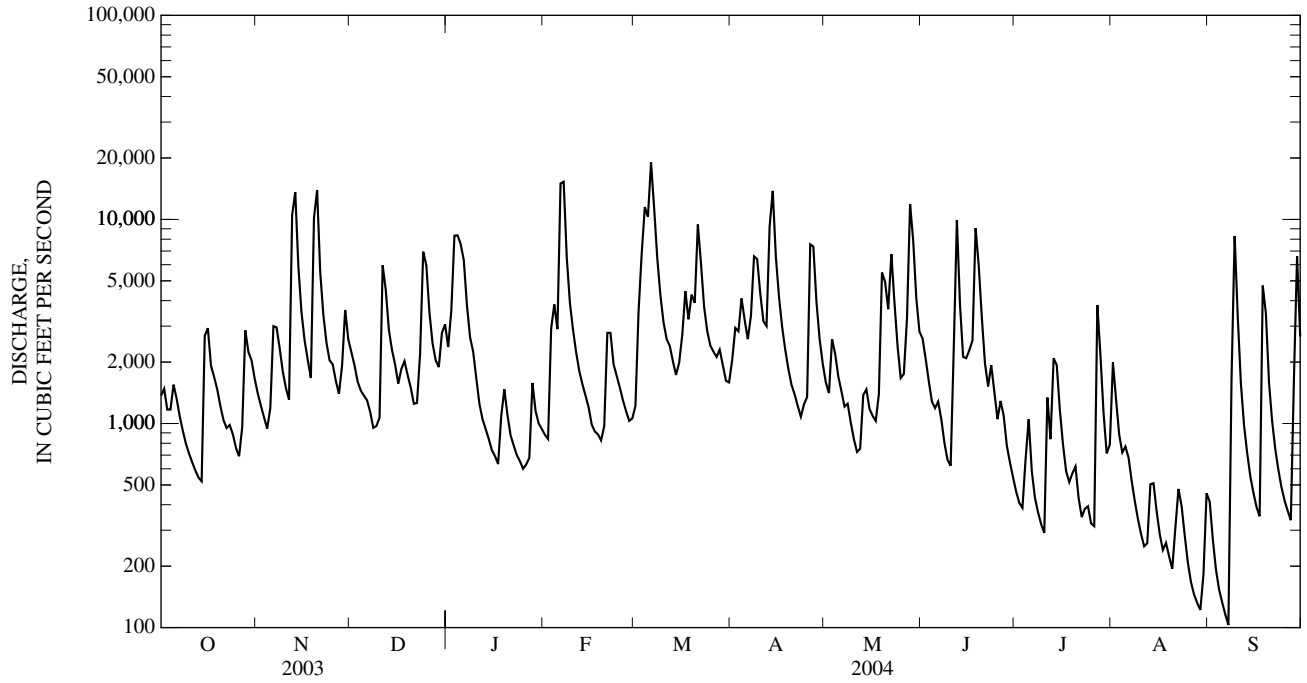
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 2004, BY WATER YEAR (WY)

MEAN	887	1,433	2,069	2,331	2,596	3,261	2,583	2,046	1,265	940	850	630
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)

03069500 CHEAT RIVER NEAR PARSONS, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1913 - 2004	
ANNUAL TOTAL	963,954		870,661			
ANNUAL MEAN	2,641		2,379		1,736	
HIGHEST ANNUAL MEAN					3,124	1996
LOWEST ANNUAL MEAN					1,111	1930
HIGHEST DAILY MEAN	25,300	Sep 19	19,000	Mar 6	70,000	Nov 5, 1985
LOWEST DAILY MEAN	237	Jul 27	103	Sep 7	10	Aug 12, 1930
ANNUAL SEVEN-DAY MINIMUM	332	Aug 2	177	Aug 24	11	Oct 9, 1930
MAXIMUM PEAK FLOW			31,100	Nov 19	(a)170,000	Nov 5, 1985
MAXIMUM PEAK STAGE			12.87	Nov 19	(b)24.30	Nov 5, 1985
INSTANTANEOUS LOW FLOW			100	(c)	(d)9.0	Aug 12, 1930
ANNUAL RUNOFF (CFSM)	3.66		3.29		2.40	
ANNUAL RUNOFF (INCHES)	49.67		44.86		32.66	
10 PERCENT EXCEEDS	6,040		5,940		4,000	
50 PERCENT EXCEEDS	1,780		1,500		972	
90 PERCENT EXCEEDS	460		392		177	

a From rating curve extended above 55,000 ft^3/s.
b From floodmarks.
c Sept. 7, 8.
d Observed.
e Estimated.



03069870 CHEAT RIVER AT HWY 50 NEAR ROWLESBURG, WV

LOCATION.--Lat 39°19'11", long 79°39'25", NAD 27, Preston County, 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 mi^2.

PERIOD OF RECORD.--October 1997 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,405.00 ft above NGVD 29.

REMARKS.--Records good except those above 20,000 ft^3/s which are fair, and those for periods of estimated daily discharges, (no gage-height record, ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 19,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	1900	23,200	11.74	Mar 6	1600	26,100	12.23
Nov 20	0200	*29,700	*12.83	Apr 14	0500	21,600	11.44
Feb 6	1800	29,300	12.76	Jun 12	0700	19,700	11.08

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,040	2,080	3,580	3,880	e1,150	1,540	2,850	2,430	3,910	650	2,280	724
2	2,330	1,730	3,060	4,490	e1,100	3,490	5,900	2,040	3,220	569	2,000	484
3	1,890	1,480	2,480	10,900	2,340	9,510	5,350	2,950	2,580	504	1,200	340
4	1,640	1,280	2,070	11,400	4,970	13,300	7,570	3,420	2,020	595	865	262
5	2,130	1,420	1,890	10,600	3,990	13,900	5,950	2,530	1,780	1,100	819	217
6	2,020	5,150	1,750	10,400	18,800	21,300	4,420	2,100	1,780	896	919	179
7	1,590	5,200	e1,350	6,390	20,900	16,100	4,620	1,770	1,560	622	669	165
8	1,300	4,070	e1,150	4,220	10,400	10,200	8,750	1,760	1,170	505	554	288
9	1,090	2,920	1,230	3,350	6,300	6,920	9,050	1,570	922	454	450	10,000
10	945	2,250	1,290	2,610	4,570	5,020	6,480	1,280	794	405	377	5,670
11	846	1,880	6,750	1,780	3,480	4,020	4,680	1,090	1,440	954	330	2,550
12	766	14,200	7,570	e1,400	2,750	3,570	3,890	988	14,500	1,280	312	1,420
13	700	17,500	4,670	e1,250	2,310	3,040	12,200	1,560	6,850	1,670	461	997
14	676	9,230	3,480	e1,100	1,990	2,490	17,900	1,910	3,640	2,680	611	750
15	2,280	5,510	2,840	e960	1,730	2,500	10,200	1,720	2,840	1,590	520	609
16	4,520	3,770	2,160	e860	1,400	e3,700	6,650	1,430	2,480	1,090	418	521
17	2,880	2,890	2,200	e800	1,230	e5,600	4,690	1,400	4,630	807	334	472
18	2,320	2,280	2,820	1,470	1,190	e4,300	3,460	1,470	12,800	663	287	3,940
19	2,060	7,880	2,430	e1,900	1,100	e5,500	2,690	6,690	10,200	693	322	5,730
20	1,680	19,400	2,070	e1,500	1,240	e5,000	2,170	8,170	5,720	762	274	2,440
21	1,420	8,790	1,720	e1,200	3,600	e12,000	1,870	5,480	e3,400	640	418	1,410
22	1,250	5,350	1,570	e1,000	4,850	e9,000	1,630	e8,600	e2,100	501	769	978
23	1,210	3,690	2,570	e900	3,190	6,060	1,430	e4,500	e2,600	457	596	754
24	1,140	2,870	10,100	e830	2,590	4,380	1,430	e3,000	e1,900	511	472	619
25	970	2,640	10,100	e760	2,240	3,510	1,500	e2,600	e1,500	458	345	528
26	871	2,190	5,970	e800	1,880	3,140	6,730	2,220	1,470	412	267	464
27	1,020	1,820	3,980	e900	1,640	2,920	11,100	4,000	1,540	3,620	220	417
28	3,620	2,090	3,110	e1,500	1,440	2,960	6,430	13,300	1,100	3,480	191	419
29	3,490	6,360	2,730	e1,400	1,380	2,740	4,190	11,700	891	1,730	241	7,600
30	3,130	4,540	3,720	e1,300	---	2,210	3,080	6,690	761	1,050	255	3,870
31	2,580	---	5,240	e1,250	---	2,070	---	4,450	---	939	685	---
TOTAL	56,404	152,460	107,650	93,100	115,750	191,990	168,860	114,818	102,098	32,287	18,461	54,817
MEAN	1,819	5,082	3,473	3,003	3,991	6,193	5,629	3,704	3,403	1,042	596	1,827
MAX	4,520	19,400	10,100	11,400	20,900	21,300	17,900	13,300	14,500	3,620	2,280	10,000
MIN	676	1,280	1,150	760	1,100	1,540	1,430	988	761	405	191	165
CFSM	2.00	5.58	3.81	3.30	4.38	6.80	6.18	4.07	3.74	1.14	0.65	2.01
IN.	2.30	6.23	4.40	3.80	4.73	7.84	6.90	4.69	4.17	1.32	0.75	2.24

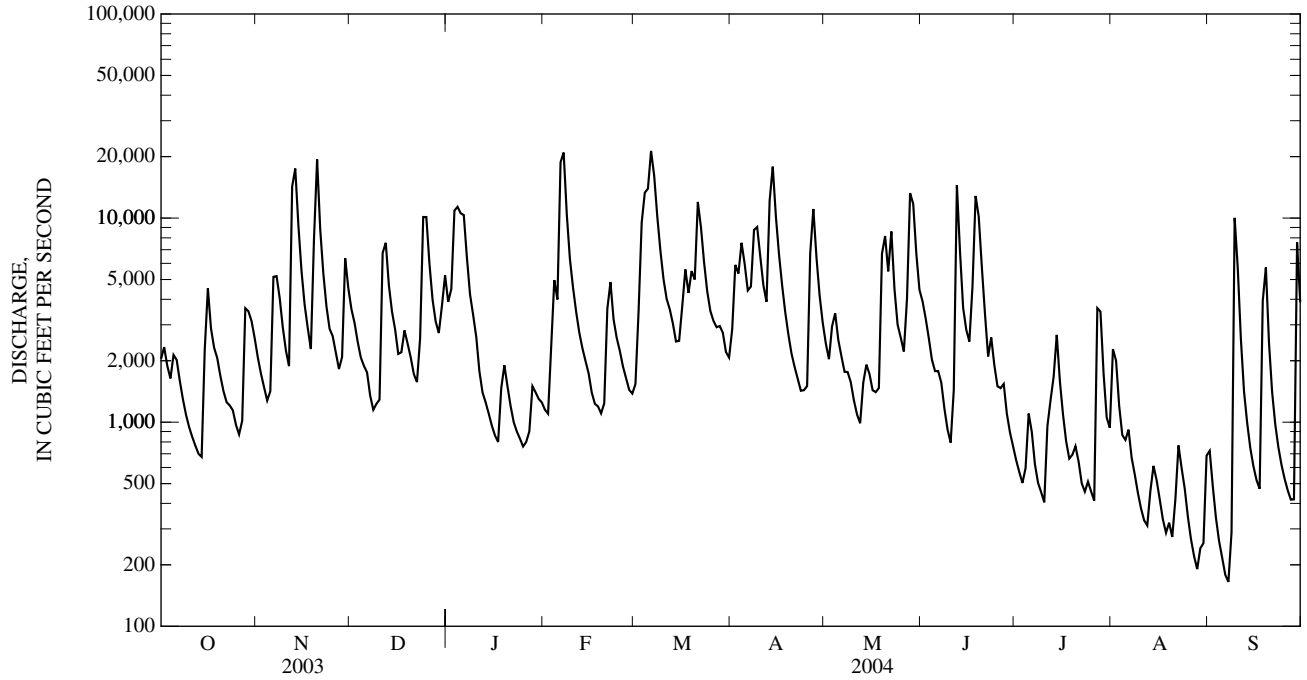
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2004, BY WATER YEAR (WY)

MEAN	933	2,167	2,250	3,225	3,783	4,990	4,664	3,183	2,526	1,679	795	1,343
MAX	2,010	5,082	3,473	5,751	5,499	6,894	5,929	4,425	4,601	3,879	1,508	4,257
(WY)	(2003)	(2004)	(2004)	(1998)	(2000)	(2003)	(2002)	(2002)	(2003)	(2001)	(2003)	(2003)
MIN	142	156	797	1,382	1,524	3,340	4,107	1,588	254	126	93.6	210
(WY)	(2002)	(2002)	(1999)	(2000)	(2002)	(2000)	(1998)	(1999)	(1999)	(1999)	(1999)	(1999)

03069870 CHEAT RIVER AT HWY 50 NEAR ROWLESBURG, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1998 - 2004	
ANNUAL TOTAL	1,344,735		1,208,695			
ANNUAL MEAN	3,684		3,302		2,619	
HIGHEST ANNUAL MEAN					3,578	2003
LOWEST ANNUAL MEAN					1,759	1999
HIGHEST DAILY MEAN	20,900	Feb 23	21,300	Mar 6	33,200	Feb 19, 2000
LOWEST DAILY MEAN	333	Jul 27	165	Sep 7	38	Aug 25, 1999
ANNUAL SEVEN-DAY MINIMUM	436	Jul 22	276	Sep 2	47	Aug 21, 1999
MAXIMUM PEAK FLOW			29,700	Nov 20	43,800	Feb 19, 2000
MAXIMUM PEAK STAGE			12.83	Nov 20	16.02	Feb 19, 2000
INSTANTANEOUS LOW FLOW			147	Sep 7	36	Aug 25, 1999
ANNUAL RUNOFF (CFSM)	4.04		3.63		2.87	
ANNUAL RUNOFF (INCHES)	54.91		49.36		39.06	
10 PERCENT EXCEEDS	9,340		7,970		6,430	
50 PERCENT EXCEEDS	2,390		2,060		1,480	
90 PERCENT EXCEEDS	666		505		214	

e Estimated.



REVISIONS.--The peak discharges and annual maximum (*) reported for water years 1998-2003 have been revised as shown in the following table. They supercede figures published in the reports for 1998-2003:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
03-21-98	1300	22,000	11.52	03-20-02	1700	*43,800	*14.83
06-19-98	2300	27,100	12.40	04-22-02	1400	31,700	13.14
06-29-98	1030	24,500	11.97	04-29-02	0100	29,300	12.76
01-22-99	0700	*21,000	*11.33	02-23-03	1200	25,400	12.12
02-19-00	0900	*53,400	*16.02	05-11-03	0500	28,000	12.55
09-26-00	0500	21,600	11.45	07-08-03	1800	21,600	11.44
07-29-01	1400	*31,200	*13.06	09-04-03	0900	22,800	11.67
01-24-02	1900	21,000	11.34	09-19-03	1300	36,100	13.79

03070500 BIG SANDY CREEK AT ROCKVILLE, WV

LOCATION.--Lat 39°37'18", long 79°42'18", NAD 27, Preston County, Hydrologic Unit 05020004, on right bank just downstream from highway bridge at Rockville, and at mile 5.0.

DRAINAGE AREA.--200 mi^2.

PERIOD OF RECORD.--May 1909 to March 1918, April 1921 to current year.

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).

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is approximately 1,310 ft above NGVD 29, from topographic map. Prior to Oct. 4, 1924, nonrecording gages at highway bridge at same datum.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect, doubtful or no gage-height record), which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, reached a stage of about 20 ft, discharge, about 30,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	0900	8,450	12.41	Apr 13	1700	7,900	12.11
Nov 19	1800	*8,930	*12.66	May 22	0400	5,210	10.49
Jan 5	1400	5,030	10.37	Aug 21	1100	6,420	11.26
Mar 6	0800	5,680	10.80	Sep 18	0800	4,850	10.25

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	513	349	619	683	e220	623	649	348	264	81	283	183
2	472	317	528	1,040	e210	1,240	1,200	337	185	69	171	126
3	383	278	445	1,230	e1,200	1,410	1,210	365	386	61	124	98
4	409	247	399	2,000	e1,700	1,380	1,170	310	248	57	100	82
5	445	453	388	3,680	e960	1,260	950	287	243	58	121	74
6	360	958	366	2,080	e4,000	4,460	819	259	227	50	99	64
7	303	710	316	1,140	3,500	2,280	712	232	186	45	72	56
8	254	553	272	805	1,540	1,680	614	351	147	44	60	511
9	218	445	258	637	999	1,160	558	291	120	42	52	2,030
10	190	375	297	434	796	929	456	249	112	34	72	1,160
11	166	353	1,530	386	677	800	397	213	266	31	141	596
12	148	5,450	1,160	e320	573	702	590	188	1,460	69	83	385
13	135	2,300	762	e280	520	576	4,680	189	753	153	108	273
14	138	1,140	642	e240	456	496	3,530	369	534	80	85	206
15	601	773	539	e210	405	460	1,510	233	385	50	62	170
16	454	594	427	177	306	593	979	289	1,190	42	52	139
17	359	481	432	196	e290	787	733	217	1,620	35	46	309
18	423	398	412	404	284	664	588	542	1,040	45	40	3,390
19	368	4,720	379	465	305	1,030	482	3,050	667	124	215	1,240
20	315	3,690	355	348	413	997	406	1,320	468	66	185	686
21	277	1,470	287	e290	1,250	2,150	357	1,320	332	45	3,450	467
22	264	952	339	e240	948	1,240	319	3,560	369	37	1,290	335
23	263	702	656	e210	728	863	319	1,320	495	35	573	254
24	222	586	2,070	e180	704	674	285	780	288	38	347	205
25	193	505	1,460	e160	615	567	243	542	210	37	235	172
26	182	412	928	e180	533	465	797	432	181	65	173	147
27	435	359	678	e270	471	435	854	339	143	1,310	139	124
28	671	472	554	e340	454	401	619	315	113	878	114	145
29	549	819	497	e270	510	344	481	335	121	399	98	187
30	474	658	872	e250	---	327	395	229	103	241	166	131
31	395	---	864	e240	---	347	---	223	---	219	393	---
TOTAL	10,579	31,519	19,731	19,385	25,567	31,340	26,902	19,034	12,856	4,540	9,149	13,945
MEAN	341	1,051	636	625	882	1,011	897	614	429	146	295	465
MAX	671	5,450	2,070	3,680	4,000	4,460	4,680	3,560	1,620	1,310	3,450	3,390
MIN	135	247	258	160	210	327	243	188	103	31	40	56
CFSM	1.71	5.25	3.18	3.13	4.41	5.05	4.48	3.07	2.14	0.73	1.48	2.32
IN.	1.97	5.86	3.67	3.61	4.76	5.83	5.00	3.54	2.39	0.84	1.70	2.59

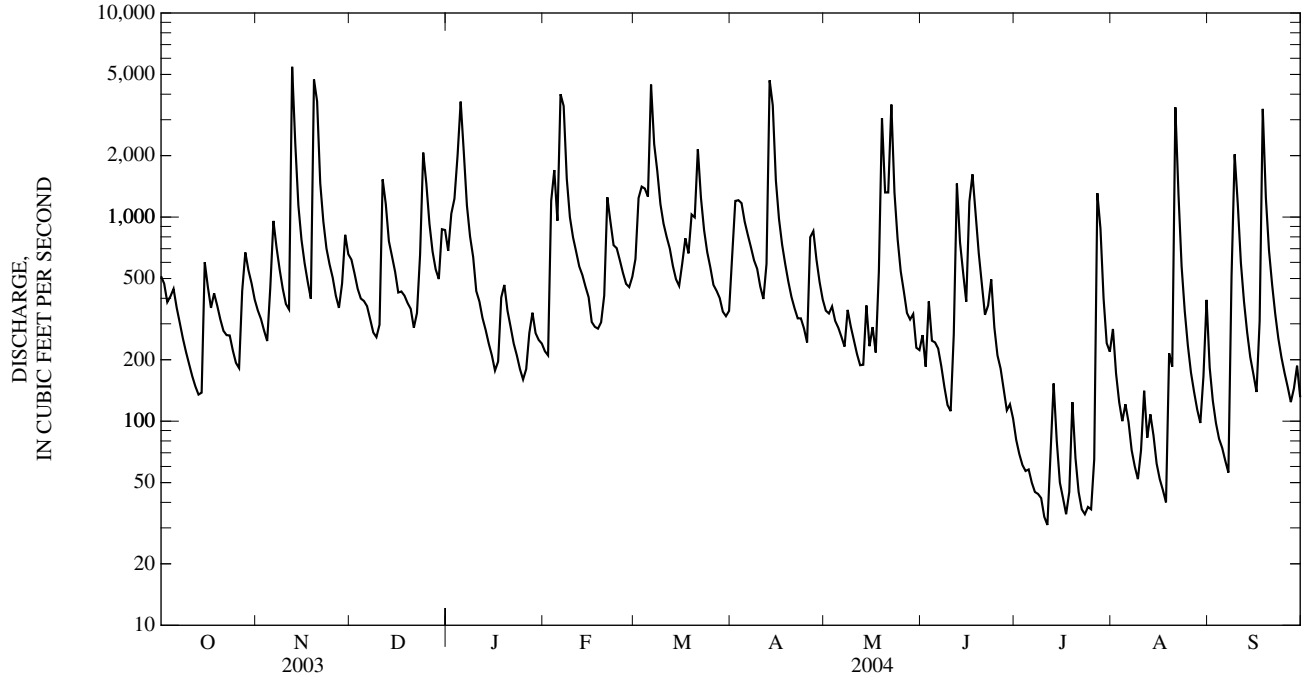
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2004, BY WATER YEAR (WY)

MEAN	168	338	552	634	696	811	640	493	294	178	136	129
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)

03070500 BIG SANDY CREEK AT ROCKVILLE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1909 - 2004	
ANNUAL TOTAL	249,446		224,547			
ANNUAL MEAN	683		614		421	
HIGHEST ANNUAL MEAN					671	1912
LOWEST ANNUAL MEAN					240	1954
HIGHEST DAILY MEAN	(e)6,600	Jul 9	5,450	Nov 12	15,700	Jan 13, 1911
LOWEST DAILY MEAN	23	Aug 26	31	Jul 11	0.10	(a)
ANNUAL SEVEN-DAY MINIMUM	34	Aug 20	43	Jul 5	0.10	Oct 21, 1953
MAXIMUM PEAK FLOW			8,930	Nov 19	(b)21,300	Jul 24, 1912
MAXIMUM PEAK STAGE			12.66	Nov 19	(c)18.00	Jul 24, 1912
INSTANTANEOUS LOW FLOW			28	Jul 26	0.10	(a)
ANNUAL RUNOFF (CFSM)	3.42		3.07		2.10	
ANNUAL RUNOFF (INCHES)	46.40		41.77		28.57	
10 PERCENT EXCEEDS	1,590		1,270		989	
50 PERCENT EXCEEDS	389		381		215	
90 PERCENT EXCEEDS	101		83		20	

a Oct. 21-27, 1953.
b From rating curve extended above 10,000 ft^3/s on basis of velocity-area studies.
c Observed.
e Estimated.



03110830 KINGS CREEK AT WEIRTON, WV

LOCATION.--Lat 40 26' 08", long 80 35' 34", NAD 27, Hancock County, Hydrologic Unit 05030101, at county road bridge 0.2 mi upstream from W.Va. Route 2, and at mile 1.4.

DRAINAGE AREA.--49.0 mi^2

PERIOD OF RECORD. -- October 1976 to September 1978, December 2002 to current year.

GAGE.-- Water-stage recorder with satellite telemeter. Datum of gage is 698.34 ft above NGVD 29.

REMARKS.-- Records good except those for periods of estimated daily discharges (ice effect, faulty gage-height record), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s (revised) and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 19	1600	896	3.69	May 21	0900	1,820	5.06
Jan 4	1530	1,910	5.18	May 21	2330	896	3.69
Jan 5	0200	2,040	5.36	Aug 21	0830	1,610	4.78
Feb 6	unknown	unknown	unknown	Sep 8	2100	1,860	5.12
Apr 13	1930	822	3.57	Sep 9	0730	2,140	5.52
Apr 23	0500	864	3.64	Sep 17	2300	(a)*8,700	(b)*17.21

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	45	92	74	e27	43	224	68	47	20	80	55
2	39	42	75	159	e26	73	250	65	36	24	53	44
3	33	38	65	187	e190	70	158	58	39	22	53	36
4	37	35	60	1,190	122	85	128	50	29	18	81	32
5	34	41	64	1,150	72	92	98	45	27	45	100	29
6	28	43	62	322	e500	134	82	41	26	25	58	26
7	25	36	54	188	267	112	73	45	22	28	44	24
8	23	32	49	140	116	96	70	47	19	29	35	374
9	22	28	48	115	88	80	62	38	18	18	30	1,080
10	21	27	74	75	75	68	53	34	25	19	28	293
11	20	32	303	77	66	61	48	31	95	30	28	134
12	18	46	181	85	e60	58	67	40	107	19	25	93
13	18	40	125	68	e54	49	356	37	55	21	25	71
14	46	34	111	59	e48	46	348	30	302	16	22	58
15	97	33	91	52	e43	44	182	29	284	18	18	50
16	52	32	85	38	e39	47	130	28	183	13	17	44
17	48	30	145	38	e36	47	103	24	166	16	16	e2,000
18	39	29	123	54	e34	50	109	46	234	25	14	e900
19	35	409	105	41	47	83	85	153	140	18	64	e480
20	30	331	90	34	65	116	75	101	94	14	155	e340
21	28	174	78	e30	101	192	66	758	72	11	804	e260
22	27	119	73	e27	70	124	62	416	66	10	161	e210
23	24	92	98	e25	60	93	478	164	52	11	96	e170
24	21	82	162	e23	60	78	206	100	42	8.9	65	e140
25	18	71	142	e22	55	73	151	70	36	8.3	51	e120
26	22	61	115	e28	49	63	156	60	33	249	42	e110
27	83	55	96	e35	45	60	122	51	28	109	37	e94
28	71	121	84	e40	42	54	104	50	27	55	34	e84
29	66	131	78	e34	40	49	86	39	30	36	60	e76
30	56	108	101	e31	---	54	74	32	24	28	126	e70
31	49	---	82	e29	---	75	---	62	---	96	79	---
TOTAL	1,174	2,397	3,111	4,470	2,497	2,369	4,206	2,812	2,358	1,060.2	2,501	7,497
MEAN	37.9	79.9	100	144	86.1	76.4	140	90.7	78.6	34.2	80.7	250
MAX	97	409	303	1,190	500	192	478	758	302	249	804	2,000
MIN	18	27	48	22	26	43	48	24	18	8.3	14	24
CFSM	0.77	1.63	2.05	2.95	1.76	1.56	2.87	1.86	1.61	0.70	1.65	5.11
IN.	0.89	1.82	2.37	3.40	1.90	1.80	3.20	2.14	1.79	0.81	1.90	5.70

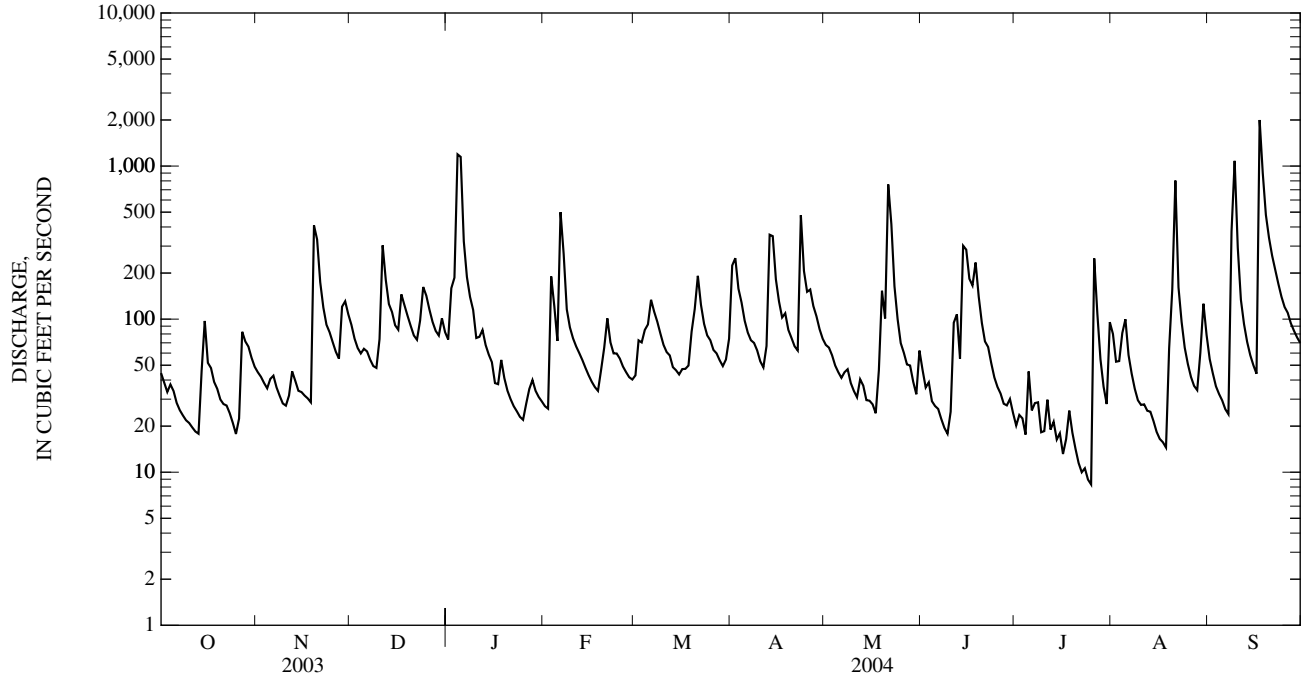
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2004, BY WATER YEAR (WY)

MEAN	27.9	38.0	77.2	77.4	66.3	115	97.5	92.7	55.3	36.4	39.4	84.1
MAX	37.9	79.9	100	144	86.1	160	140	134	78.6	68.2	80.7	250
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(1978)	(2004)	(2003)	(2004)	(2003)	(2004)	(2004)
MIN	15.6	12.7	31.3	8.29	20.2	76.4	67.1	49.8	14.9	12.7	8.56	8.86
(WY)	(1978)	(1977)	(1977)	(1977)	(1978)	(2004)	(2003)	(1977)	(1977)	(1977)	(1977)	(1978)

03110830 KINGS CREEK AT WEIRTON, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1977 - 2004	
ANNUAL TOTAL	26,890.8		36,452.2			
ANNUAL MEAN	73.7		99.6		67.2	
HIGHEST ANNUAL MEAN					99.6	2004
LOWEST ANNUAL MEAN					41.2	1977
HIGHEST DAILY MEAN	720	May 10	(e)2,000	Sep 17	(e)2,000	Sep 17, 2004
LOWEST DAILY MEAN	8.0	Aug 26	8.3	Jul 25	2.0	Sep 12, 1977
ANNUAL SEVEN-DAY MINIMUM	11	Aug 20	12	Jul 19	2.3	Sep 7, 1977
MAXIMUM PEAK FLOW			(a)8,700	Sep 17	(a)8,700	Sep 17, 2004
MAXIMUM PEAK STAGE			(b)17.21	Sep 17	(b)17.21	Sep 17, 2004
INSTANTANEOUS LOW FLOW			8.3	Jul 24	2.0	(c)
ANNUAL RUNOFF (CFSM)	1.51		2.04		1.37	
ANNUAL RUNOFF (INCHES)	20.46		27.73		18.68	
10 PERCENT EXCEEDS	149		181		140	
50 PERCENT EXCEEDS	52		55		33	
90 PERCENT EXCEEDS	18		23		7.2	

a From rating curve extended above 1,400 ft^3/s on the basis of theoretical bridge computation.
b From floodmark.
c Sept. 11-13, 1977.
e Estimated.



03111950 DUNKARD FORK NEAR MAJORSVILLE, WV
(Detention Reservoir)

LOCATION.--Lat 39°57'10", long 80°31'33", NAD 27, Marshall County, Hydrologic Unit 05030106.

DAM NAME.--Wheeling Creek No. 3.

SURFACE AREA.--31 acres.

DRAINAGE AREA.--77.2 mi^2.

PERIOD OF RECORD.--June 2002 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 800.0 ft above NGVD 29.

REMARKS.-- 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

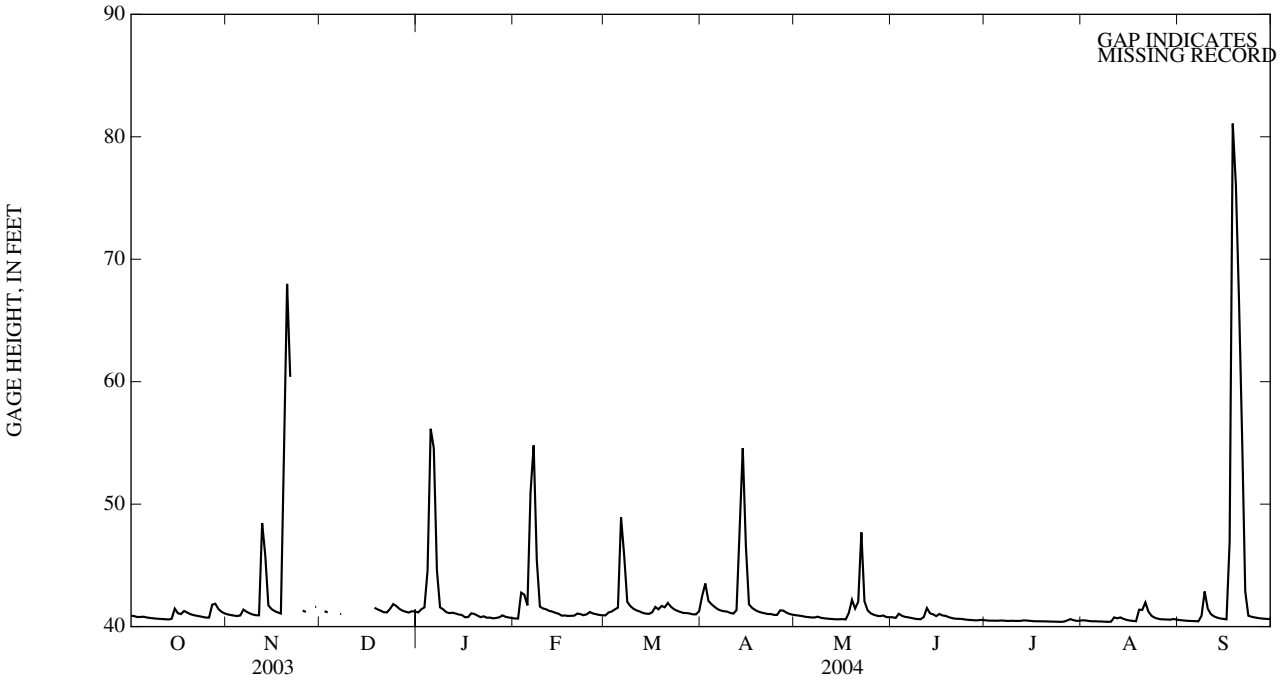
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 82.66 ft, Sept. 18, 2004; minimum gage height, 40.20 ft, Sept. 14, 15, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 82.66 ft, Sept. 18; minimum gage height, 40.38 ft, July 25, 26, and Aug. 9, 10.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40.89	40.99	---	41.16	40.66	40.92	42.52	40.93	40.76	40.51	40.52	40.53
2	40.86	40.94	41.26	41.41	40.65	41.15	43.52	40.89	40.71	40.49	40.49	40.51
3	40.78	40.90	41.16	41.57	42.77	41.23	42.10	40.86	41.05	40.48	40.45	40.48
4	40.79	40.86	---	44.57	42.61	41.40	41.82	40.80	40.88	40.48	40.43	40.47
5	40.81	40.91	---	56.15	41.74	41.55	41.61	40.78	40.79	40.48	40.44	40.45
6	40.75	41.39	---	54.57	50.97	48.92	41.42	40.75	40.76	40.50	40.42	40.45
7	40.71	41.22	41.03	44.61	54.80	45.81	41.31	40.74	40.70	40.48	40.42	40.43
8	40.68	41.08	---	41.57	45.43	42.01	41.25	40.81	40.65	40.46	40.40	40.88
9	40.65	40.99	---	41.41	41.63	41.67	41.22	40.72	40.61	40.48	40.39	42.87
10	40.63	40.93	---	41.18	41.48	41.45	41.12	40.68	40.60	40.47	40.40	41.46
11	40.62	40.92	---	41.10	41.41	41.32	41.06	40.65	40.78	40.46	40.75	41.02
12	40.60	48.46	---	41.13	41.28	41.23	41.34	40.63	41.52	40.47	40.68	40.83
13	40.58	45.82	---	41.07	41.22	41.11	47.92	40.61	41.09	40.51	40.75	40.73
14	40.64	41.73	---	40.99	41.12	41.06	54.57	40.59	41.00	40.50	40.63	40.67
15	41.47	41.43	---	40.95	41.05	41.04	46.60	40.60	40.86	40.47	40.55	40.63
16	41.09	41.27	---	40.76	40.90	41.18	41.81	40.61	41.03	40.45	40.50	40.60
17	41.02	41.16	---	40.78	40.91	41.61	41.53	40.59	40.91	40.43	40.46	46.93
18	41.28	41.07	41.54	41.08	40.87	41.41	41.35	41.13	40.88	40.43	40.44	81.08
19	41.14	54.23	41.41	41.03	40.88	41.69	41.23	42.19	40.77	40.43	41.38	76.07
20	41.02	67.99	41.30	40.90	40.89	41.58	41.14	41.47	40.70	40.43	41.36	66.63
21	40.94	60.40	41.17	40.77	41.07	41.93	41.09	42.03	40.65	40.42	41.97	55.45
22	40.89	---	41.16	40.84	41.02	41.62	41.02	47.69	40.64	40.41	41.21	42.88
23	40.84	---	41.45	40.73	40.93	41.41	41.03	42.06	40.63	40.40	40.88	40.89
24	40.79	---	41.84	40.73	41.01	41.29	40.96	41.34	40.59	40.40	40.73	40.80
25	40.74	41.31	41.68	40.67	41.19	41.20	40.96	41.09	40.56	40.39	40.64	40.75
26	40.73	41.20	41.45	40.71	41.07	41.11	41.33	40.97	40.54	40.41	40.60	40.71
27	41.79	---	41.30	40.76	41.01	41.11	41.30	40.89	40.52	40.51	40.59	40.67
28	41.87	---	41.21	40.92	40.95	41.07	41.14	40.85	40.51	40.61	40.58	40.64
29	41.43	41.61	41.15	40.80	40.93	41.00	41.03	40.91	40.54	40.52	40.57	40.63
30	41.21	---	41.25	40.75	---	41.00	40.97	40.78	40.54	40.47	40.62	40.61
31	41.07	---	41.22	40.70	---	41.25	---	40.77	---	40.48	40.57	---
MEAN	40.95	---	---	42.14	42.15	41.72	42.24	41.17	40.76	40.47	40.67	44.92
MAX	41.87	---	---	56.15	54.80	48.92	54.57	47.69	41.52	40.61	41.97	81.08
MIN	40.58	---	---	40.67	40.65	40.92	40.96	40.59	40.51	40.39	40.39	40.43

03111950 DUNKARD FORK NEAR MAJORSVILLE, WV—Continued



03112000 WHEELING CREEK AT ELM GROVE, WV

LOCATION.--Lat 40°02'40", long 80°39'40", NAD 27, Ohio County, 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 mi^2.

PERIOD OF RECORD.--October 1940 to current year. 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 667.59 ft above NGVD 29.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect), which are poor. The flow from 205 mi^2 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. Cummulative detention as construction progressed 1975 to 1995.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 22,300 ft^3/s, Sept. 17, gage height, (a)13.83 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	168	603	454	e190	239	1,350	216	229	85	114	129
2	151	144	493	706	e170	397	2,750	204	193	82	86	101
3	124	129	415	1,270	1,560	506	1,700	195	201	82	64	85
4	123	116	367	4,660	1,990	548	1,260	176	214	78	54	75
5	133	141	367	5,840	962	694	1,010	162	179	71	60	68
6	121	273	382	4,340	4,480	2,300	779	152	170	67	52	63
7	101	253	329	3,080	3,870	2,340	656	158	148	67	47	58
8	87	188	289	1,560	2,610	1,270	593	180	128	65	41	1,270
9	77	148	274	883	1,130	894	582	154	111	59	36	3,950
10	70	127	412	621	758	685	475	130	105	55	50	1,480
11	64	131	2,280	546	691	560	412	118	220	56	68	651
12	61	1,780	1,500	508	567	493	536	223	693	82	111	361
13	55	2,050	913	441	512	409	3,660	158	397	59	95	232
14	93	808	733	374	425	361	4,190	123	2,110	58	90	165
15	351	525	621	329	368	346	3,070	119	1,930	53	68	125
16	269	410	527	283	271	396	1,720	115	787	44	54	101
17	203	333	810	366	263	749	978	103	428	52	44	8,140
18	288	276	829	436	253	626	705	438	337	90	39	7,860
19	265	3,270	689	577	243	738	551	2,200	253	81	539	5,900
20	195	4,370	587	411	260	732	456	1,470	200	57	761	5,150
21	154	3,310	479	270	352	985	397	1,460	168	49	1,300	4,080
22	132	2,510	460	e220	350	836	352	3,150	238	42	629	2,140
23	114	1,020	589	e200	279	651	350	1,820	187	40	235	631
24	94	623	1,020	e170	281	550	298	827	148	36	149	378
25	77	565	993	e150	352	485	274	501	142	32	116	304
26	82	459	745	e200	309	420	360	398	121	141	104	261
27	529	396	600	303	278	412	386	329	107	173	116	222
28	960	487	515	364	248	393	308	310	101	123	108	198
29	456	850	462	351	235	337	258	317	102	87	105	180
30	292	720	517	249	---	336	229	261	98	67	211	160
31	208	---	517	e210	---	485	---	254	---	152	194	---
TOTAL	6,079	26,580	20,317	30,372	24,257	21,173	30,645	16,421	10,445	2,285	5,740	44,518
MEAN	196	886	655	980	836	683	1,022	530	348	73.7	185	1,484
MAX	960	4,370	2,280	5,840	4,480	2,340	4,190	3,150	2,110	173	1,300	8,140
MIN	55	116	274	150	170	239	229	103	98	32	36	58
CFSM	0.70	3.15	2.33	3.49	2.98	2.43	3.64	1.89	1.24	0.26	0.66	5.28
IN.	0.80	3.52	2.69	4.02	3.21	2.80	4.06	2.17	1.38	0.30	0.76	5.89

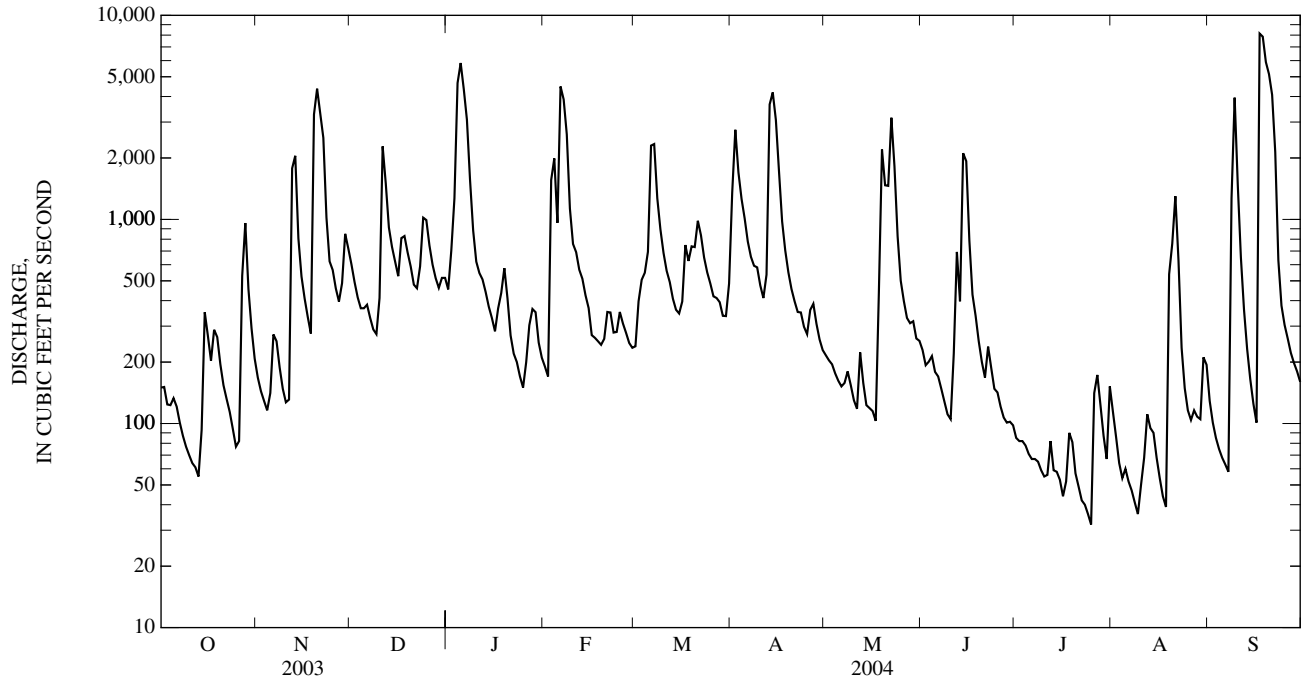
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2004, BY WATER YEAR (WY)

MEAN	79.0	205	372	498	606	731	588	430	241	144	102	106
MAX	627	2,085	1,369	1,124	1,249	1,670	1,336	1,107	1,004	885	1,424	1,484
(WY)	(1991)	(1986)	(1991)	(1994)	(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)

03112000 WHEELING CREEK AT ELM GROVE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1941 - 2004	
ANNUAL TOTAL	193,194		238,832			
ANNUAL MEAN	529		653		340	
HIGHEST ANNUAL MEAN					653	2004
LOWEST ANNUAL MEAN					112	1954
HIGHEST DAILY MEAN	4,570	Feb 23	8,140	Sep 17	13,100	Dec 30, 1942
LOWEST DAILY MEAN	25	Aug 26	32	Jul 25	0.10	(b)
ANNUAL SEVEN-DAY MINIMUM	31	Aug 20	48	Jul 19	0.24	Sep 21, 1964
MAXIMUM PEAK FLOW			(c)22,300	Sep 17	(c)22,300	Sep 17, 2004
MAXIMUM PEAK STAGE			(a)13.83	Sep 17	(a)13.83	Sep 17, 2004
INSTANTANEOUS LOW FLOW			29	Jul 25	0.10	(d)
ANNUAL RUNOFF (CFSM)	1.88		2.32		1.21	
ANNUAL RUNOFF (INCHES)	25.58		31.62		16.46	
10 PERCENT EXCEEDS	1,130		1,560		834	
50 PERCENT EXCEEDS	278		300		138	
90 PERCENT EXCEEDS	85		68		10	

a From high-water mark in well.
b Sept. 26, 27, 1964.
c From rating curve extended above 15,000 ft^3/s on basis of slope-area measurements at gage heights 13.20 ft and 13.65 ft.
d Oct. 7, 1963, Sept. 26, 27, 1964.
e Estimated.



03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV

LOCATION.--Lat 38°44'36", long 80°31'32", NAD 27, Braxton County, 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 mi^2.

PERIOD OF RECORD.--December 1973 to September 1983, October 1985 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 850.00 ft above NGVD 29.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect), which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	225	457	304	e180	51	748	171	449	23	208	18
2	207	186	370	543	235	52	1,410	147	335	20	145	15
3	181	157	303	694	493	50	1,190	179	231	18	100	12
4	180	135	255	496	774	71	1,150	153	173	21	69	11
5	229	411	237	1,150	517	119	680	139	1,010	48	88	9.5
6	213	997	330	1,190	3,010	2,340	458	124	736	49	87	8.3
7	179	883	322	601	2,010	1,320	368	105	394	31	55	7.3
8	141	578	287	389	859	758	312	89	241	37	41	19
9	112	372	254	300	507	503	250	75	163	33	33	94
10	94	270	233	225	372	366	199	61	119	24	27	78
11	81	221	460	187	293	292	171	59	131	120	23	40
12	69	1,820	540	e165	243	244	218	67	330	77	22	26
13	60	2,250	396	e150	211	196	2,730	187	199	130	28	20
14	60	750	582	138	186	168	1,910	329	135	104	30	16
15	862	417	890	e120	164	156	1,080	238	101	62	22	14
16	550	290	582	115	135	181	585	368	85	40	18	12
17	315	225	550	126	125	300	380	212	115	29	16	25
18	226	183	532	275	112	285	278	146	88	24	14	539
19	174	1,600	426	556	104	390	221	543	125	22	13	200
20	138	1,880	333	402	100	396	189	582	96	19	12	101
21	118	706	269	297	103	807	176	452	69	16	41	59
22	111	420	248	266	94	619	146	1,570	54	14	86	40
23	96	302	408	220	79	417	130	604	87	16	37	30
24	81	257	1,290	186	77	317	131	313	72	174	24	24
25	67	256	980	212	79	254	131	204	52	76	18	20
26	61	221	535	263	68	211	480	230	72	160	15	18
27	295	202	367	496	62	196	584	408	64	433	13	16
28	440	382	289	640	57	205	370	4,270	45	400	12	23
29	371	856	248	443	53	185	266	1,250	35	202	23	93
30	341	579	302	334	---	180	208	518	28	124	31	56
31	281	---	342	239	---	225	---	471	---	117	24	---
TOTAL	6,508	18,031	13,617	11,722	11,302	11,854	17,149	14,264	5,834	2,663	1,375	1,644.1
MEAN	210	601	439	378	390	382	572	460	194	85.9	44.4	54.8
MAX	862	2,250	1,290	1,190	3,010	2,340	2,730	4,270	1,010	433	208	539
MIN	60	135	233	115	53	50	130	59	28	14	12	7.3
CFSM	1.87	5.37	3.92	3.38	3.48	3.41	5.10	4.11	1.74	0.77	0.40	0.49
IN.	2.16	5.99	4.52	3.89	3.75	3.94	5.70	4.74	1.94	0.88	0.46	0.55

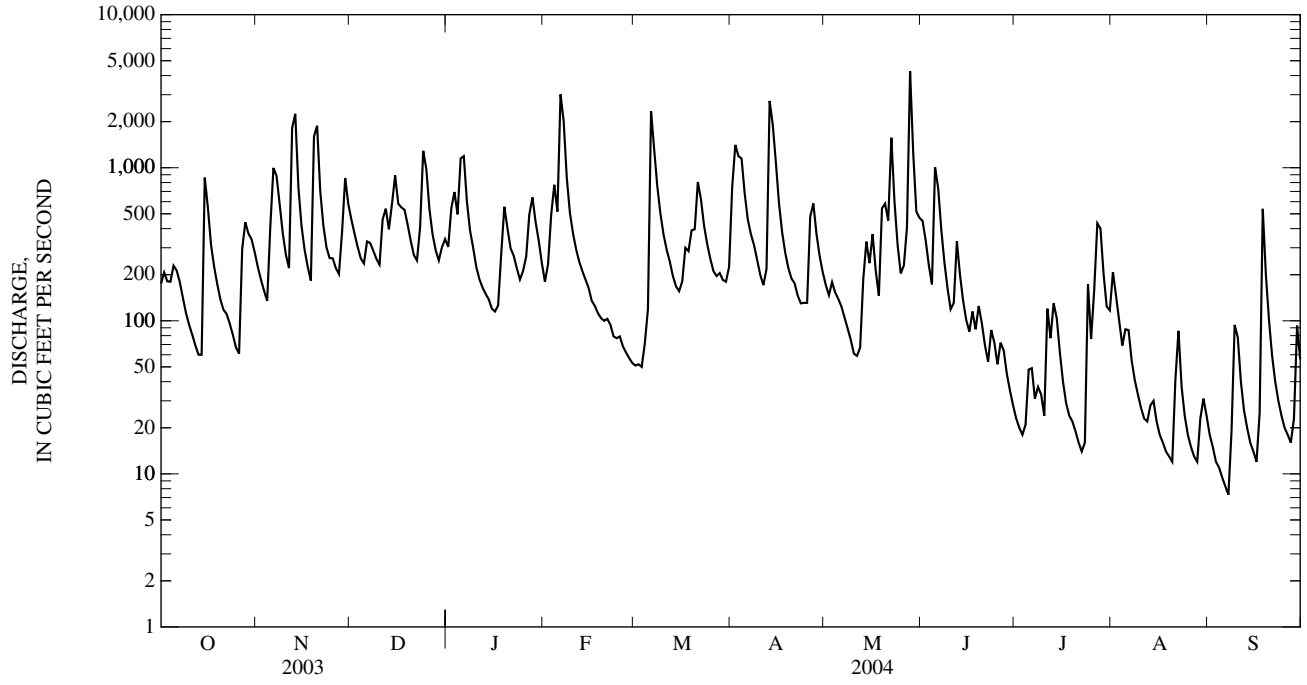
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2004, BY WATER YEAR (WY)

MEAN	86.4	206	299	348	381	414	340	276	155	124	91.5	63.7
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	132	105	33.7	5.03	4.31	1.41	2.14
(WY)	(1995)	(1995)	(2002)	(1977)	(1978)	(1987)	(1999)	(1991)	(1991)	(1988)	(1993)	(1995)

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1974 - 2004	
ANNUAL TOTAL	127,290		115,963.1			
ANNUAL MEAN	349		317		230	
HIGHEST ANNUAL MEAN					357	1994
LOWEST ANNUAL MEAN					134	1999
HIGHEST DAILY MEAN	3,000	Aug 17	4,270	May 28	9,070	Jul 31, 1996
LOWEST DAILY MEAN	19	Jul 27	7.3	Sep 7	0.11	Aug 17, 1987
ANNUAL SEVEN-DAY MINIMUM	32	Jul 22	12	Sep 1	0.14	Aug 15, 1987
MAXIMUM PEAK FLOW			7,790	May 28	(a)19,600	Jul 31, 1996
MAXIMUM PEAK STAGE			13.14	May 28	18.47	Jul 31, 1996
INSTANTANEOUS LOW FLOW			7.0	(b)	0.11	Aug 17, 1987
ANNUAL RUNOFF (CFSM)	3.11		2.83		2.06	
ANNUAL RUNOFF (INCHES)	42.28		38.52		27.95	
10 PERCENT EXCEEDS	802		684		548	
50 PERCENT EXCEEDS	226		186		112	
90 PERCENT EXCEEDS	60		23		8.7	

a From slope-area measurement.
b Sept. 7, 8.
e Estimated.



03151550 SALTLICK CREEK NEAR FLATWOODS, WV
(Detention Reservoir)

LOCATION.-- Lat 38°43'54.9", long 80°35'42.7", NAD 83, Braxton County, Hydrologic Unit 05030203.

DAM NAME.--Saltlick Creek #9.

SURFACE AREA.--16 acres.

DRAINAGE AREA.--9.75 mi^2.

PERIOD OF RECORD.--May 2004 to Sept. 2004.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 797.22 ft above NGVD 29.

REMARKS.-- Normal Pool = 60.58 ft (Normal Storage=131 acre-ft)

Top of Riser = 63.00 ft

Emergency Spillway = 95.68 ft

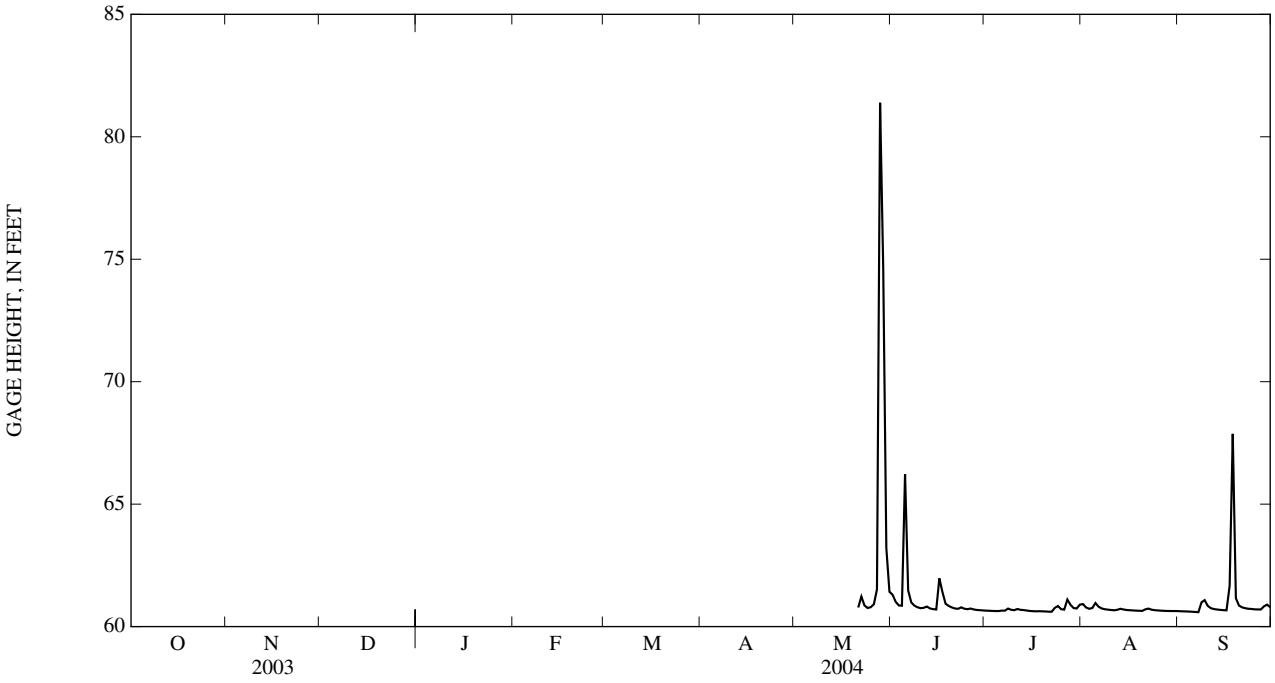
Top of Dam = 114.08 ft

EXTREMES FOR MAY TO SEPTEMBER, 2004.--Maximum gage height, 83.69 ft, May 28; minimum gage height, 60.58 ft, Sept. 7.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	61.30	60.65	60.92	60.63
2	---	---	---	---	---	---	---	---	61.01	60.65	60.78	60.62
3	---	---	---	---	---	---	---	---	60.87	60.64	60.73	60.62
4	---	---	---	---	---	---	---	---	60.85	60.63	60.76	60.61
5	---	---	---	---	---	---	---	---	66.23	60.63	60.96	60.61
6	---	---	---	---	---	---	---	---	61.48	60.65	60.81	60.60
7	---	---	---	---	---	---	---	---	60.99	60.65	60.74	60.59
8	---	---	---	---	---	---	---	---	60.85	60.74	60.71	60.99
9	---	---	---	---	---	---	---	---	60.79	60.69	60.69	61.08
10	---	---	---	---	---	---	---	---	60.75	60.67	60.68	60.85
11	---	---	---	---	---	---	---	---	60.77	60.72	60.67	60.75
12	---	---	---	---	---	---	---	---	60.82	60.68	60.68	60.72
13	---	---	---	---	---	---	---	---	60.74	60.67	60.73	60.70
14	---	---	---	---	---	---	---	---	60.71	60.66	60.70	60.68
15	---	---	---	---	---	---	---	---	60.70	60.64	60.68	60.67
16	---	---	---	---	---	---	---	---	61.97	60.63	60.67	60.66
17	---	---	---	---	---	---	---	---	61.40	60.62	60.66	61.66
18	---	---	---	---	---	---	---	---	60.93	60.63	60.65	67.87
19	---	---	---	---	---	---	---	---	60.84	60.62	60.65	61.16
20	---	---	---	---	---	---	---	---	60.78	60.62	60.64	60.86
21	---	---	---	---	---	---	---	60.78	60.74	60.61	60.70	60.79
22	---	---	---	---	---	---	---	61.23	60.73	60.61	60.74	60.75
23	---	---	---	---	---	---	---	60.86	60.79	60.77	60.69	60.73
24	---	---	---	---	---	---	---	60.76	60.73	60.84	60.67	60.72
25	---	---	---	---	---	---	---	60.79	60.71	60.71	60.66	60.70
26	---	---	---	---	---	---	---	60.91	60.74	60.69	60.65	60.70
27	---	---	---	---	---	---	---	61.52	60.70	61.10	60.64	60.70
28	---	---	---	---	---	---	---	81.39	60.68	60.89	60.64	60.83
29	---	---	---	---	---	---	---	74.67	60.67	60.76	60.64	60.90
30	---	---	---	---	---	---	---	63.21	60.66	60.74	60.63	60.79
31	---	---	---	---	---	---	---	61.42	---	60.90	60.64	---
MEAN	---	---	---	---	---	---	---	---	61.06	60.70	60.70	61.02
MAX	---	---	---	---	---	---	---	---	66.23	61.10	60.96	67.87
MIN	---	---	---	---	---	---	---	---	60.66	60.61	60.63	60.59

03151550 SALTLICK CREEK NEAR FLATWOODS, WV—Continued



03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV

LOCATION.--Lat 39°03'32", long 81°23'23", NAD 27, Wirt County, 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 mi^2.

PERIOD OF RECORD.--April 1915 to September 1922 (gage heights only), July to September 1939 (fragmentary), October 1939 to current year. 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 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 596.08 ft above NGVD of 1929.

REMARKS.--Records good, except those for period of extimated daily discharges (no gage-height record), which are poor. Flow partially regulated since 1968 by five floodwater-detention reservoirs affecting 49.5 mi^2. Flow regulated since March 1979 by Burnsville Lake.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 17, 1939, reached a stage of 32.25 ft, from floodmarks at old lock 4, discharge about 53,000 ft^3/s.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, (a)40,400 ft^3/s, Nov. 20, gage height, (b)35.22 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,620	1,900	4,710	2,210	1,260	542	7,720	1,560	e3,600	171	526	332
2	1,860	1,490	3,680	3,900	1,120	549	19,700	1,270	e3,900	149	428	237
3	1,970	1,240	2,960	8,120	6,390	572	13,900	1,130	e3,300	146	501	186
4	1,420	989	2,450	6,150	15,100	1,400	5,920	1,210	e2,600	165	468	150
5	1,200	1,320	1,800	7,420	9,010	3,470	3,830	1,050	2,160	156	369	123
6	1,170	10,300	2,470	12,900	17,700	24,300	3,460	923	2,530	133	306	101
7	1,140	9,850	3,780	7,590	30,100	29,100	2,600	835	3,050	122	298	88
8	1,000	5,200	3,270	4,760	19,300	11,900	2,220	753	2,270	118	253	3,290
9	851	3,510	2,570	2,850	7,460	6,860	1,850	671	1,430	136	216	12,000
10	669	2,700	2,140	2,220	5,490	5,380	1,620	552	963	170	176	5,220
11	584	2,090	3,890	1,610	4,910	4,150	1,340	454	770	297	151	1,780
12	526	6,300	6,810	1,360	4,320	2,800	1,390	389	2,060	346	140	913
13	479	22,000	4,670	1,300	3,700	1,980	11,500	338	3,820	453	125	612
14	441	13,700	3,820	1,200	2,630	1,520	35,400	289	1,810	575	109	415
15	469	5,700	9,500	1,140	1,600	1,370	22,700	262	1,150	883	111	302
16	1,410	4,020	8,190	1,190	1,260	1,400	8,470	319	824	439	122	239
17	1,640	3,230	5,820	1,160	1,150	2,090	5,630	667	734	301	114	5,380
18	1,550	2,860	5,530	1,470	1,080	2,420	4,520	704	908	269	108	25,400
19	1,460	16,400	4,360	4,230	998	2,590	3,770	773	1,110	232	97	16,400
20	1,180	39,500	3,430	4,370	923	3,000	2,810	907	1,300	182	88	6,090
21	845	30,900	2,820	2,750	918	4,350	1,970	e1,500	841	144	157	1,450
22	649	8,490	2,430	2,670	896	6,780	1,660	e2,300	613	125	452	1,100
23	597	4,200	2,540	1,810	820	4,560	1,480	e4,600	482	112	954	844
24	629	3,410	4,110	1,510	756	3,230	1,360	e3,100	429	128	696	523
25	569	3,300	6,540	1,030	741	2,230	1,330	e2,200	419	126	449	358
26	443	2,540	5,550	927	732	1,870	1,700	e1,400	364	115	301	280
27	1,060	2,060	3,610	1,300	692	1,610	5,380	e1,000	296	170	222	233
28	2,620	2,220	2,750	2,170	640	1,510	4,560	e18,000	258	207	177	205
29	3,000	5,890	2,350	3,550	588	1,470	2,920	e26,000	237	1,300	192	190
30	2,560	6,830	2,560	2,780	---	1,380	1,900	e5,700	198	1,060	939	191
31	2,890	---	2,870	1,690	---	1,800	---	e4,600	---	787	642	---
TOTAL	38,501	224,139	123,980	99,337	142,284	138,183	184,610	85,456	44,426	9,717	9,887	84,632
MEAN	1,242	7,471	3,999	3,204	4,906	4,458	6,154	2,757	1,481	313	319	2,821
MAX	3,000	39,500	9,500	12,900	30,100	29,100	35,400	26,000	3,900	1,300	954	25,400
MIN	441	989	1,800	927	588	542	1,330	262	198	112	88	88

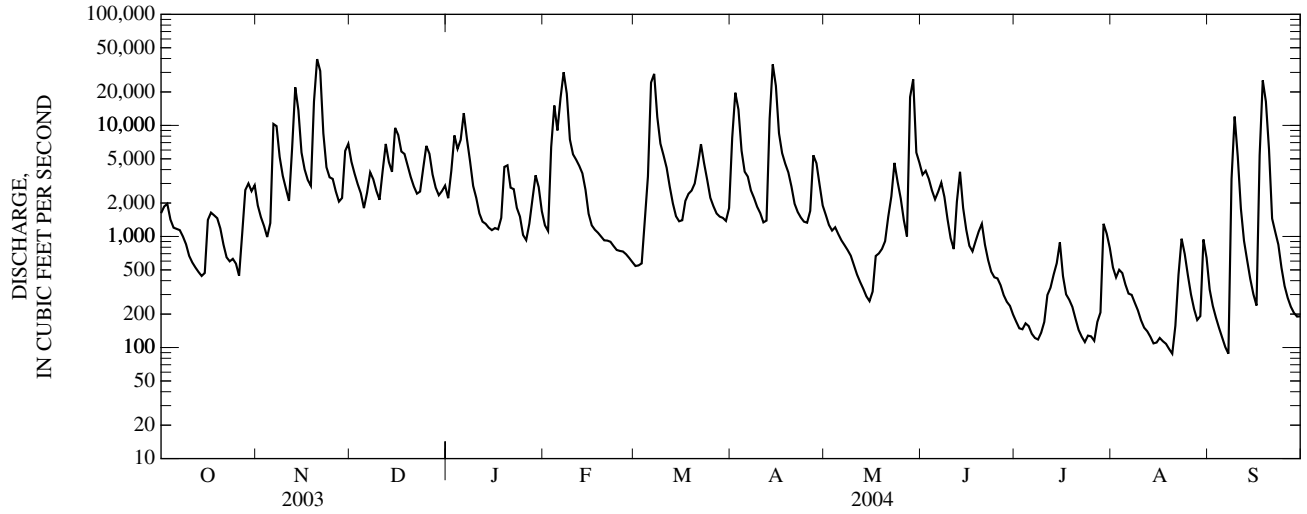
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2004, BY WATER YEAR (WY)

MEAN	707	1,913	2,919	3,449	4,176	4,240	3,239	2,715	1,347	817	788	625
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)

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1968 - 2004	
ANNUAL TOTAL	1,293,228		1,185,152			
ANNUAL MEAN	3,543		3,238		2,235	
HIGHEST ANNUAL MEAN					3,628	1994
LOWEST ANNUAL MEAN					1,119	1969
HIGHEST DAILY MEAN	40,800	Feb 23	(a)39,500	Nov 20	(a)45,200	Mar 3, 1997
LOWEST DAILY MEAN	186	Aug 28	88	(c)	15	Aug 21, 1987
ANNUAL SEVEN-DAY MINIMUM	263	Jul 2	107	Aug 14	18	Jul 6, 1988
MAXIMUM PEAK FLOW			(a)40,400	Nov 20	(a)48,100	Mar 2, 1997
MAXIMUM PEAK STAGE			(b)35.22	Nov 20	(b)40.04	Mar 2, 1997
INSTANTANEOUS LOW FLOW			82	Sep 7	14	Aug 21, 1987
10 PERCENT EXCEEDS	6,850		6,840		5,670	
50 PERCENT EXCEEDS	1,970		1,440		920	
90 PERCENT EXCEEDS	469		189		117	

a Adjusted for backwater.
b Backwater.
c Aug. 20, Sept. 7.
e Estimated.



STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1967, BY WATER YEAR (WY) [UNREGULATED]

	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)

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	.90	Jul 15, 1959
ANNUAL SEVEN-DAY MINIMUM	1.3	Aug 30, 1965
INSTANTANEOUS PEAK FLOW	(*)50,700	Mar 7, 1967
INSTANTANEOUS PEAK STAGE	(#)39.14	Mar 7, 1967
INSTANTANEOUS LOW FLOW	(&).60	Jul 14, 1959
10 PERCENT EXCEEDS	5,440	
50 PERCENT EXCEEDS	694	
90 PERCENT EXCEEDS	56	

* From rating curve extended above 39,000 ft^3/s.
\# Backwater.
& Filling pool above old lock 3.

03155405 North Fork Hughes River near Cairo, WV
(Detention Reservoir)

LOCATION.--Lat 39°13'08", long 81°06'00", NAD 27, Ritchie County, Hydrologic Unit 05030203.

DAM NAME.--North Fork Hughes River 21-C.

DRAINAGE AREA.--92 mi^2.

PERIOD OF RECORD.--December 2002 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 670.0 ft above NGVD 29.

REMARKS.-- Normal Pool = 42.0 ft

Emergency Spillway = 67.0 ft

Top of Dam = 90 ft

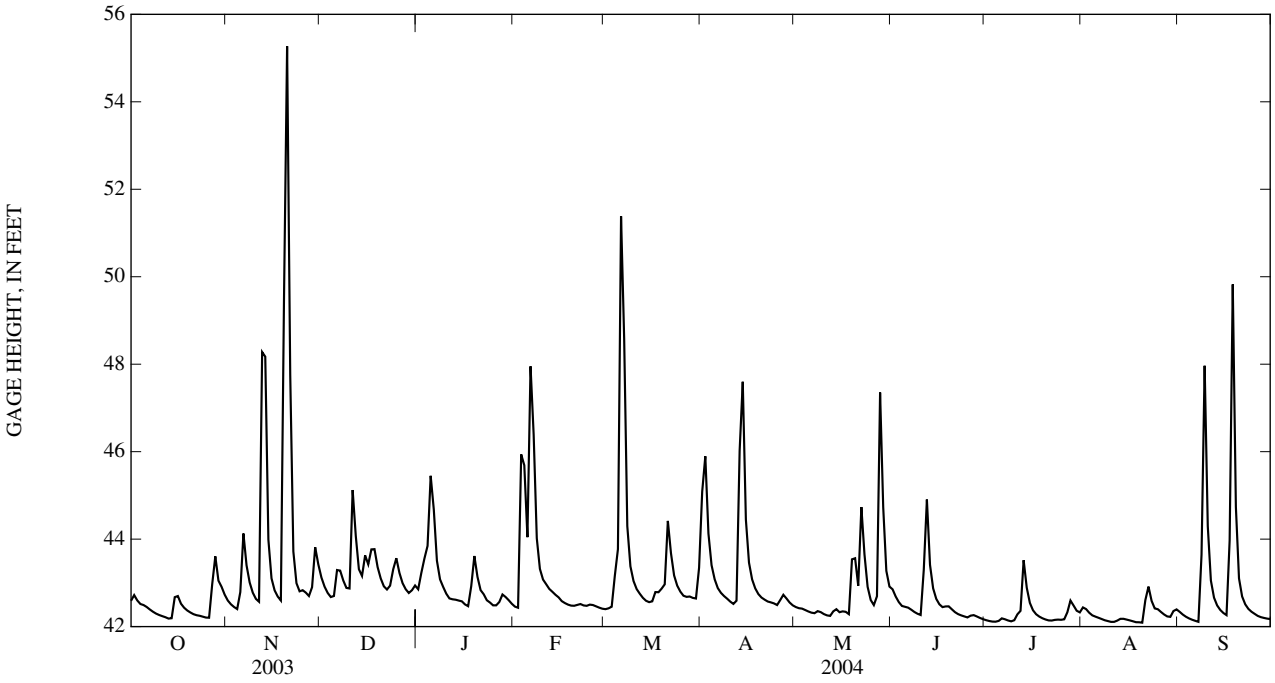
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 57.64 ft, Nov. 20, 2003; minimum gage height, less than 33.0 ft many days December 2002 to April 2003 during initial filling of the reservoir.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 57.64 ft, Nov. 20; minimum gage height, 42.08 ft, Aug. 19, 20.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42.59	42.60	43.12	42.85	42.46	42.40	45.09	42.45	42.85	42.15	42.44	42.34
2	42.72	42.51	42.91	43.23	42.43	42.42	45.90	42.42	42.69	42.13	42.40	42.27
3	42.60	42.45	42.77	43.56	45.94	42.45	44.13	42.41	42.56	42.11	42.32	42.23
4	42.52	42.40	42.68	43.85	45.69	43.16	43.40	42.38	42.47	42.11	42.26	42.19
5	42.49	42.79	42.70	45.45	44.04	43.77	43.08	42.35	42.45	42.13	42.23	42.16
6	42.45	44.13	43.29	44.68	47.95	51.38	42.88	42.32	42.43	42.19	42.20	42.13
7	42.39	43.40	43.28	43.51	46.39	48.58	42.77	42.31	42.39	42.17	42.17	42.11
8	42.34	43.01	43.05	43.08	44.02	44.30	42.70	42.35	42.33	42.14	42.15	43.64
9	42.30	42.78	42.88	42.91	43.32	43.38	42.64	42.33	42.29	42.12	42.13	47.96
10	42.27	42.63	42.87	42.75	43.08	43.04	42.57	42.29	42.27	42.15	42.11	44.30
11	42.24	42.57	45.12	42.64	42.97	42.86	42.52	42.26	43.30	42.28	42.11	43.05
12	42.21	48.28	44.08	42.62	42.86	42.75	42.59	42.24	44.90	42.36	42.14	42.66
13	42.18	48.17	43.31	42.61	42.80	42.66	46.02	42.35	43.41	43.52	42.18	42.48
14	42.19	43.99	43.16	42.60	42.73	42.59	47.60	42.40	42.88	42.89	42.18	42.38
15	42.67	43.10	43.63	42.58	42.67	42.56	44.45	42.33	42.63	42.54	42.16	42.31
16	42.70	42.83	43.42	42.51	42.58	42.58	43.46	42.35	42.51	42.37	42.14	42.26
17	42.52	42.69	43.77	42.47	42.54	42.79	43.08	42.34	42.45	42.28	42.12	43.97
18	42.43	42.60	43.77	42.93	42.50	42.79	42.87	42.28	42.46	42.23	42.10	49.83
19	42.37	49.47	43.36	43.61	42.48	42.87	42.74	43.54	42.46	42.19	42.10	44.74
20	42.32	55.27	43.10	43.14	42.48	42.97	42.66	43.56	42.40	42.16	42.09	43.10
21	42.28	47.77	42.92	42.83	42.50	44.42	42.62	42.93	42.33	42.14	42.61	42.69
22	42.26	43.72	42.85	42.74	42.52	43.68	42.57	44.73	42.29	42.14	42.91	42.51
23	42.25	42.99	42.94	42.60	42.48	43.17	42.55	43.65	42.26	42.15	42.59	42.41
24	42.23	42.81	43.31	42.55	42.48	42.94	42.53	42.91	42.23	42.16	42.42	42.34
25	42.21	42.83	43.56	42.49	42.50	42.80	42.49	42.61	42.21	42.16	42.40	42.29
26	42.20	42.78	43.23	42.49	42.49	42.71	42.61	42.49	42.25	42.17	42.33	42.25
27	42.97	42.70	42.99	42.56	42.46	42.68	42.73	42.69	42.26	42.33	42.28	42.22
28	43.61	42.90	42.86	42.73	42.43	42.69	42.64	47.35	42.23	42.59	42.23	42.20
29	43.05	43.81	42.77	42.68	42.41	42.66	42.55	44.73	42.20	42.48	42.22	42.18
30	42.91	43.42	42.83	42.60	---	42.64	42.49	43.27	42.17	42.36	42.36	42.17
31	42.73	---	42.94	42.52	---	43.34	---	42.92	---	42.33	42.39	---
MEAN	42.49	44.11	43.21	42.98	43.25	43.42	43.30	42.89	42.55	42.30	42.27	43.05
MAX	43.61	55.27	45.12	45.45	47.95	51.38	47.60	47.35	44.90	43.52	42.91	49.83
MIN	42.18	42.40	42.68	42.47	42.41	42.40	42.49	42.24	42.17	42.11	42.09	42.11

03155405 North Fork Hughes River near Cairo, WV—Continued



03159750 Tug Fork at Statts Mills, WV
(Detention Reservoir)

LOCATION.--Lat 38°44'37", long 81°37'32", Jackson County, Hydrologic Unit 05030202.

DAM NAME.--Mill Creek No. 13

DRAINAGE AREA.--52.3 mi^2

PERIOD OF RECORD.--November 2001 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 591.5 ft above NGVD 29.

REMARKS.-- 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

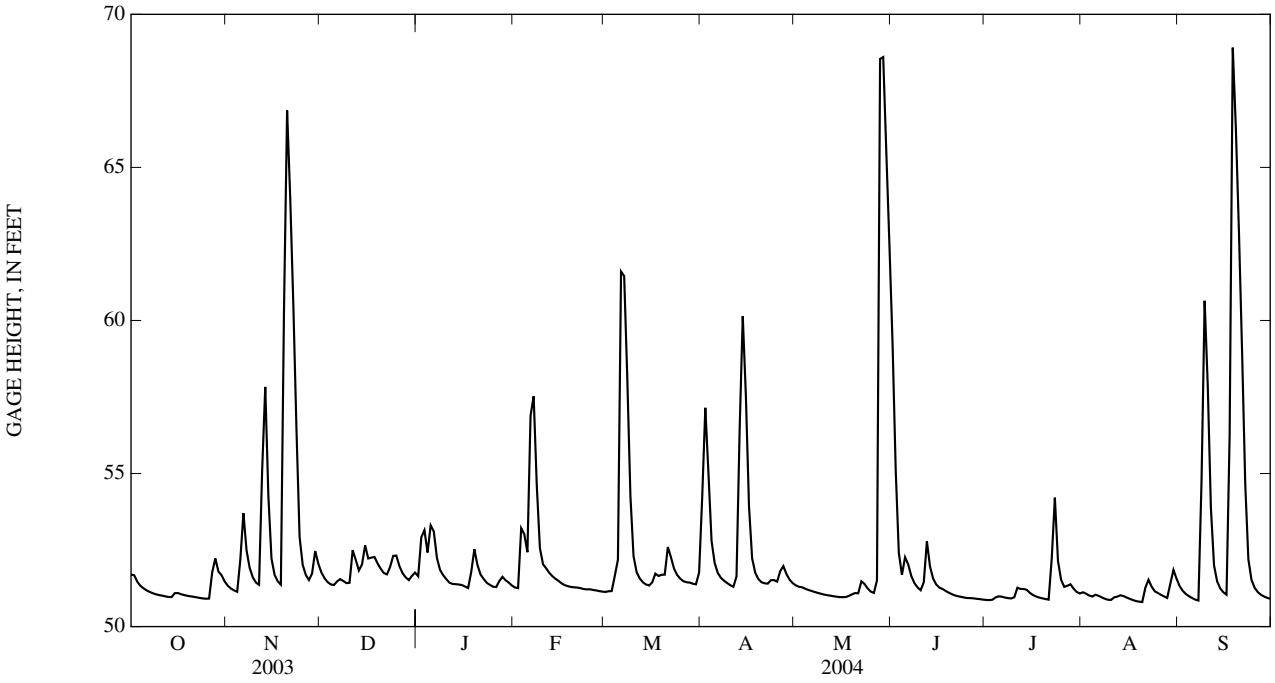
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 70.73 ft, May 28, 2004; minimum gage height, less than 43.77 ft, Dec. 7, 2001.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 70.73 ft, MAy 28; minimum gage height, 50.79 ft, Aug. 20.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51.70	51.33	51.76	51.65	51.28	51.13	54.22	51.35	59.23	50.87	51.12	51.32
2	51.68	51.24	51.58	52.92	51.26	51.15	57.15	51.30	55.13	50.87	51.08	51.17
3	51.47	51.18	51.45	53.15	53.21	51.16	55.02	51.28	52.41	50.88	51.02	51.06
4	51.33	51.14	51.38	52.42	53.02	51.66	52.80	51.24	51.69	50.95	50.98	50.99
5	51.25	52.18	51.36	53.31	52.43	52.19	52.08	51.20	52.27	50.99	51.04	50.93
6	51.18	53.70	51.48	53.11	56.89	61.60	51.75	51.17	52.03	50.98	51.01	50.88
7	51.13	52.49	51.55	52.25	57.53	61.45	51.59	51.13	51.66	50.95	50.96	50.85
8	51.09	51.92	51.49	51.85	54.60	58.12	51.50	51.10	51.42	50.93	50.91	54.75
9	51.05	51.61	51.42	51.68	52.56	54.27	51.42	51.07	51.28	50.92	50.88	60.64
10	51.03	51.44	51.43	51.55	52.04	52.30	51.35	51.05	51.19	50.96	50.87	57.85
11	51.01	51.37	52.49	51.44	51.91	51.78	51.30	51.03	51.45	51.27	50.96	53.88
12	50.99	55.10	52.18	51.39	51.76	51.57	51.64	51.01	52.79	51.23	50.98	52.01
13	50.97	57.83	51.83	51.39	51.65	51.45	56.43	50.99	51.96	51.23	51.02	51.48
14	50.97	54.25	52.03	51.38	51.56	51.37	60.14	50.98	51.57	51.20	51.00	51.25
15	51.09	52.22	52.65	51.36	51.49	51.34	57.54	50.96	51.37	51.10	50.95	51.12
16	51.10	51.69	52.22	51.31	51.41	51.45	53.93	50.96	51.27	51.03	50.91	51.04
17	51.06	51.48	52.25	51.26	51.35	51.73	52.23	50.96	51.23	50.98	50.87	56.26
18	51.03	51.37	52.27	51.79	51.32	51.65	51.76	51.00	51.17	50.95	50.83	68.91
19	51.01	60.32	52.06	52.53	51.29	51.69	51.55	51.05	51.11	50.92	50.82	66.27
20	50.99	66.86	51.89	52.01	51.28	51.70	51.45	51.10	51.06	50.90	50.80	62.83
21	50.98	64.01	51.75	51.69	51.27	52.60	51.41	51.09	51.02	50.88	51.27	58.94
22	50.96	60.49	51.71	51.56	51.26	52.26	51.40	51.48	50.99	52.23	51.53	54.66
23	50.94	56.45	51.95	51.43	51.23	51.89	51.51	51.40	50.97	54.21	51.31	52.20
24	50.92	52.93	52.31	51.36	51.22	51.68	51.52	51.25	50.95	52.14	51.15	51.53
25	50.91	52.02	52.32	51.30	51.22	51.56	51.47	51.15	50.93	51.53	51.10	51.27
26	50.92	51.69	51.97	51.29	51.20	51.48	51.81	51.10	50.93	51.30	51.04	51.13
27	51.77	51.52	51.74	51.49	51.18	51.45	51.98	51.51	50.92	51.33	50.98	51.04
28	52.22	51.73	51.61	51.63	51.16	51.44	51.72	68.54	50.91	51.38	50.94	50.98
29	51.80	52.47	51.52	51.51	51.14	51.40	51.53	68.60	50.90	51.24	51.40	50.94
30	51.68	52.06	51.66	51.44	---	51.38	51.42	65.48	50.88	51.13	51.85	50.91
31	51.47	---	51.76	51.34	---	51.76	---	62.45	---	51.08	51.56	---
MEAN	51.22	53.87	51.84	51.80	52.09	52.57	52.75	53.10	51.76	51.24	51.07	53.97
MAX	52.22	66.86	52.65	53.31	57.53	61.60	60.14	68.60	59.23	54.21	51.85	68.91
MIN	50.91	51.14	51.36	51.26	51.14	51.13	51.30	50.96	50.88	50.87	50.80	50.85

03159750 Tug Fork at Statts Mills, WV—Continued



03176500 NEW RIVER AT GLEN LYN, VA

LOCATION.--Lat 37°22'22", long 80°51'38", NAD83, Giles County, Hydrologic Unit 05050002, on right bank 90 ft upstream from bridge on U.S. Highway 460 at Glen Lyn, 0.3 mi upstream from East River, and 6.3 mi downstream from Wolf Creek.

DRAINAGE AREA.--3,768 mi^2.

PERIOD OF RECORD.--August 1927 to current year.

REVISED RECORDS.--WSP 758: Drainage area. WSP 1305: 1928(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 1,490.11 ft NGVD of 1929. Aug. 11, 1927, to Oct. 16, 1934, on left bank opposite present site at same datum, and Oct. 17, 1934, to June 16, 1939, on left bank at site 200 ft upstream at same datum.

REMARKS.--Records good except for period of no gage-height record, Jan. 9-12, which is fair. Flow regulated since 1939 by Claytor Reservoir (station 03169000) 55 mi upstream from station. Statistics of monthly mean data and summary statistics for water years 1928-1938 (unregulated flow) are available in previous data books, water years 1991-1998. Water withdrawn by American Electric Power at gage. U.S. Army Corps of Engineers satellite gage-height telemeter at station. Maximum discharge, 226,000 ft^3/s, from rating curve extended above 89,000 ft^3/s on basis of slope-area measurement of peak flow. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,550	3,540	5,170	6,530	2,490	4,930	7,360	6,010	8,200	4,080	2,400	1,710
2	3,660	1,970	8,410	6,880	2,520	5,880	7,420	5,270	7,240	3,570	3,570	1,810
3	3,570	1,860	6,380	8,760	3,830	6,620	7,270	5,350	5,260	3,840	4,650	2,080
4	3,610	3,940	8,460	8,380	7,630	6,890	4,380	4,920	4,770	4,280	4,100	2,780
5	3,580	3,480	9,770	7,350	9,560	8,440	3,770	4,950	12,600	5,390	2,890	1,900
6	3,290	3,400	10,300	8,820	10,600	7,550	6,200	4,240	11,100	4,820	2,990	2,160
7	4,320	8,970	6,900	9,140	21,200	5,910	5,800	4,220	8,090	4,040	2,870	3,520
8	2,690	7,750	6,090	9,330	18,500	6,650	5,620	3,970	5,820	3,280	2,400	13,800
9	2,960	5,850	5,160	e10,000	14,400	7,860	5,570	3,970	6,580	3,210	2,220	40,500
10	2,860	4,460	5,900	e6,400	10,700	8,440	5,310	3,850	8,510	3,110	2,220	21,100
11	4,030	4,450	15,200	e5,400	10,300	7,250	2,540	3,980	7,440	2,940	1,850	11,400
12	3,280	4,290	19,300	e3,900	9,300	6,120	3,190	4,100	6,140	3,180	1,820	7,580
13	3,380	4,770	12,400	5,920	8,490	7,150	13,100	4,120	6,070	2,990	5,400	5,940
14	3,660	4,740	8,440	5,700	7,760	4,290	27,400	4,110	8,380	3,020	3,030	5,350
15	3,610	4,660	5,180	5,500	5,680	2,780	21,400	3,780	8,790	2,810	2,610	6,790
16	3,510	2,740	8,870	5,950	6,310	6,130	15,100	3,690	8,750	2,420	1,680	7,600
17	4,380	2,690	8,760	6,990	8,250	6,900	11,900	3,900	10,400	2,300	1,620	8,820
18	3,030	4,410	11,100	3,990	7,710	7,510	9,360	4,220	8,820	2,580	1,570	30,000
19	3,030	22,700	10,900	4,210	6,810	7,010	7,900	4,030	6,530	2,700	2,030	27,100
20	3,030	75,800	9,060	6,350	6,560	6,760	7,190	4,270	5,410	4,050	1,890	14,200
21	3,030	31,700	7,930	6,320	6,520	5,290	7,360	4,070	4,630	2,970	2,180	12,000
22	3,030	16,200	6,250	5,910	8,180	2,970	5,900	4,270	4,130	2,440	2,120	7,890
23	3,030	12,000	5,620	5,770	10,300	6,600	5,960	4,060	4,110	2,440	1,920	5,860
24	3,250	8,880	6,390	5,060	8,960	6,240	5,530	3,460	5,110	2,460	1,910	5,400
25	3,050	9,660	9,020	2,950	8,330	4,620	5,250	3,110	4,910	2,480	2,100	4,740
26	1,820	7,980	8,210	3,790	7,910	4,520	6,110	4,130	6,780	2,300	2,230	4,680
27	1,900	7,660	7,570	5,170	7,430	4,690	10,100	5,010	9,340	3,020	1,670	5,160
28	4,660	6,940	7,460	5,180	6,650	2,460	9,570	5,220	7,590	3,660	1,610	18,600
29	4,560	6,690	6,210	4,820	4,590	2,820	7,750	5,520	5,770	2,950	2,650	48,200
30	4,610	5,980	7,390	4,840	---	4,140	6,460	4,490	4,840	2,770	2,680	20,700
31	3,820	---	7,160	5,050	---	4,590	---	6,090	---	2,550	1,930	---
TOTAL	106,790	290,160	260,960	190,360	247,470	180,010	247,770	136,380	212,110	98,650	76,810	349,370
MEAN	3,445	9,672	8,418	6,141	8,533	5,807	8,259	4,399	7,070	3,182	2,478	11,650
MAX	4,660	75,800	19,300	10,000	21,200	8,440	27,400	6,090	12,600	5,390	5,400	48,200
MIN	1,820	1,860	5,160	2,950	2,490	2,460	2,540	3,110	4,110	2,300	1,570	1,710
(†)	-1,311	+1,260	-605	-1,260	+2,017	-1,462	+1,462	0	-252	+202	+302	+302
MEAN‡	3,408	9,714	8,399	6,100	8,603	5,760	8,308	4,399	7,062	3,189	2,487	11,656
CFSM‡	.90	2.58	2.23	1.62	2.28	1.53	2.20	1.17	1.87	.85	.66	3.09
IN.‡	1.04	2.88	2.57	1.87	2.46	1.76	2.46	1.35	2.09	.98	.76	3.45

CAL YR 2003 MEAN‡ 8049 CFSM‡ 2.14 IN.‡ 29.00
WTR YR 2004 MEAN‡ 6551 CFSM‡ 1.74 IN.‡ 23.67

† Total change in contents, equivalent in cubic feet per second, per month, in Claytor Reservoir; provided by American Electric Power.
‡ Adjusted for change in contents.

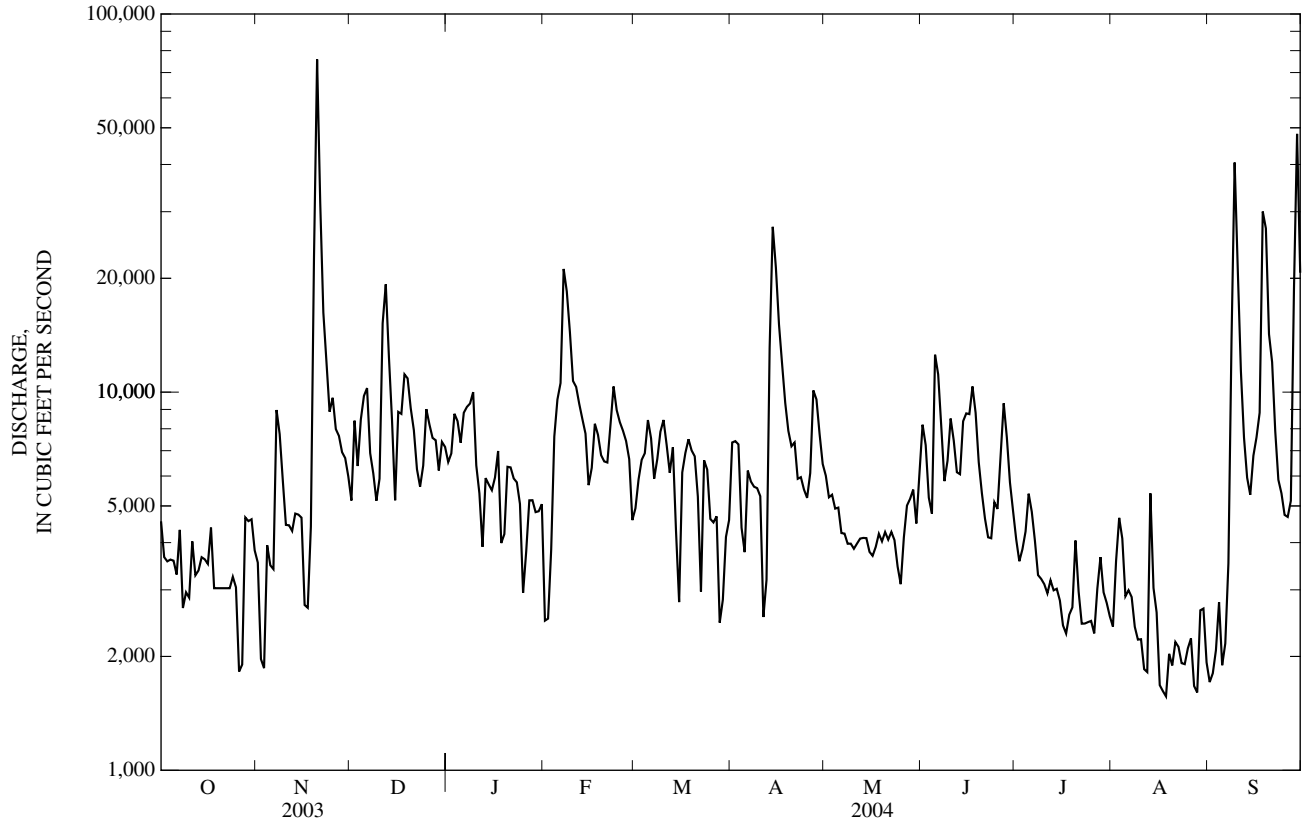
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2004, BY WATER YEAR (WY)

MEAN	3,115	3,762	4,646	5,821	7,405	8,240	7,400	5,944	4,517	3,319	3,181	2,960
MAX	9,882	12,450	10,910	13,290	15,810	18,650	20,890	11,270	12,860	9,784	16,410	11,650
(WY)	(1990)	(1978)	(1949)	(1996)	(1957)	(1993)	(1987)	(1984)	(1992)	(1949)	(1940)	(2004)
MIN	1,204	1,258	1,305	1,489	2,285	2,407	2,673	2,397	1,373	1,390	1,040	1,127
(WY)	(1989)	(1982)	(1998)	(1966)	(2002)	(1988)	(1986)	(1941)	(1999)	(1988)	(2002)	(1998)

03176500 NEW RIVER AT GLEN LYN, VA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1939 - 2004	
ANNUAL TOTAL	2,936,920		2,396,840			
ANNUAL MEAN	8,046		6,549		5,012	
HIGHEST ANNUAL MEAN					7,492	2003
LOWEST ANNUAL MEAN					2,511	2002
HIGHEST DAILY MEAN	75,800	Nov 20	75,800	Nov 20	126,000	Aug 15, 1940
LOWEST DAILY MEAN	1,820	Oct 26	1,570	Aug 18	a557	Aug 19, 1999
ANNUAL SEVEN-DAY MINIMUM	2,730	Oct 21	1,870	Aug 16	646	Aug 13, 1999
MAXIMUM PEAK FLOW			99,600	Nov 20	b226,000	Aug 14, 1940
MAXIMUM PEAK STAGE			17.40	Nov 20	b27.50	Aug 14, 1940
INSTANTANEOUS LOW FLOW			1,490	cAug 27	a,d449	fAug 13, 1999
ANNUAL RUNOFF (CFSM)	2.14		1.74		1.33	
ANNUAL RUNOFF (INCHES)	29.00		23.66		18.07	
10 PERCENT EXCEEDS	13,700		10,300		9,640	
50 PERCENT EXCEEDS	6,380		5,260		3,660	
90 PERCENT EXCEEDS	3,270		2,470		1,520	

a Affected by withdrawals.
b Prior to regulation, 1928-38, maximum peak flow, 99,000 ft^3/s, Oct. 3, 1929, gage height, 16.75 ft.
c Also Aug. 28, 2004.
d Prior to regulation, 1928-38, instantaneous low flow, 770 ft^3/s, Sept. 8, 1930.
e Estimated.
f Also Aug. 19, 1999.



03178150 MIDDLE FORK BRUSH CREEK AT EDISON, WV
(Detention Reservoir)

LOCATION.--Lat 37°18'22", long 81°09'54", NAD 27, Mercer County, Hydrologic Unit 05050002.

DAM NAME.--Brush Creek No. 19-A.

SURFACE AREA.--68 acres.

DRAINAGE AREA.--2.05 mi^2.

PERIOD OF RECORD.--June 2002 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,461.0 ft above NGVD 29.

REMARKS.-- 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

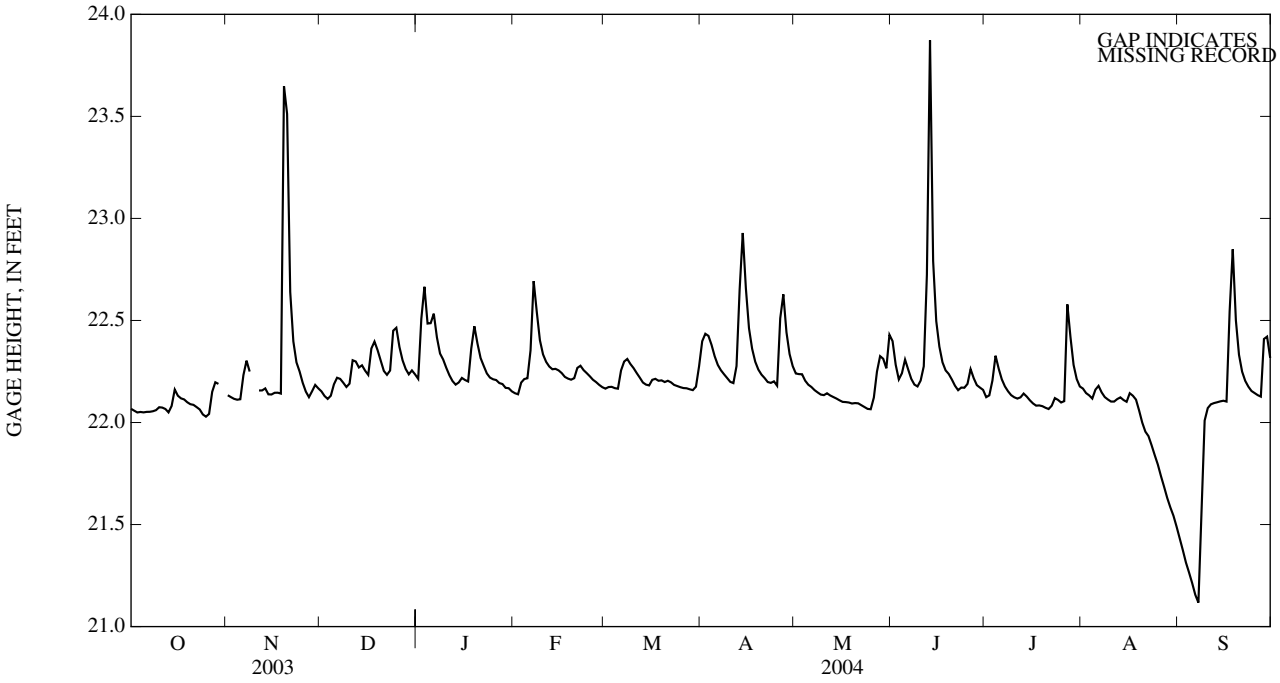
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 24.47 ft, Nov. 19, 2003; minimum gage height, 17.71 ft, Oct. 15, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 24.47 ft, Nov. 19; minimum gage height, 21.10 ft, Sept. 7.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.07	22.13	22.15	22.21	22.14	22.17	22.40	22.24	22.40	22.12	22.17	21.43
2	22.06	22.12	22.13	22.51	22.14	22.17	22.43	22.24	22.28	22.13	22.14	21.38
3	22.05	22.12	22.12	22.67	22.20	22.17	22.42	22.24	22.21	22.21	22.13	21.31
4	22.05	22.11	22.13	22.48	22.21	22.17	22.38	22.20	22.24	22.33	22.12	21.26
5	22.05	22.11	22.19	22.49	22.22	22.17	22.32	22.19	22.31	22.26	22.16	21.21
6	22.05	22.23	22.22	22.53	22.35	22.26	22.28	22.17	22.26	22.21	22.18	21.16
7	22.05	22.30	22.21	22.42	22.69	22.30	22.26	22.16	22.21	22.18	22.15	21.12
8	22.06	22.25	22.19	22.34	22.54	22.31	22.24	22.15	22.19	22.15	22.12	21.56
9	22.06	---	22.17	22.31	22.40	22.29	22.22	22.14	22.18	22.13	22.11	22.01
10	22.07	---	22.19	22.27	22.33	22.27	22.20	22.13	22.21	22.12	22.10	22.07
11	22.07	22.16	22.31	22.23	22.30	22.24	22.19	22.14	22.28	22.12	22.10	22.09
12	22.07	22.16	22.30	22.20	22.27	22.22	22.28	22.13	22.72	22.12	22.11	22.10
13	22.05	22.17	22.27	22.19	22.26	22.20	22.65	22.12	23.87	22.14	22.12	22.10
14	22.08	22.14	22.28	22.20	22.26	22.19	22.93	22.12	22.79	22.13	22.11	22.10
15	22.16	22.14	22.25	22.22	22.26	22.18	22.66	22.11	22.50	22.11	22.10	22.11
16	22.13	22.15	22.23	22.21	22.24	22.21	22.46	22.10	22.37	22.09	22.14	22.10
17	22.12	22.15	22.36	22.20	22.22	22.21	22.36	22.10	22.30	22.08	22.13	22.54
18	22.11	22.14	22.40	22.36	22.22	22.20	22.30	22.10	22.26	22.08	22.11	22.85
19	22.10	23.65	22.35	22.47	22.21	22.21	22.26	22.09	22.24	22.08	22.06	22.50
20	22.09	23.51	22.30	22.39	22.22	22.20	22.23	22.10	22.21	22.07	22.00	22.33
21	22.09	22.64	22.25	22.32	22.27	22.20	22.22	22.09	22.18	22.07	21.96	22.25
22	22.08	22.40	22.23	22.28	22.28	22.20	22.20	22.08	22.16	22.08	21.93	22.20
23	22.06	22.29	22.25	22.24	22.26	22.18	22.19	22.08	22.17	22.12	21.89	22.18
24	22.04	22.25	22.45	22.22	22.24	22.18	22.20	22.07	22.17	22.11	21.84	22.15
25	22.03	22.19	22.46	22.21	22.23	22.17	22.18	22.07	22.19	22.10	21.79	22.14
26	22.04	22.15	22.37	22.21	22.21	22.17	22.51	22.12	22.26	22.10	21.74	22.13
27	22.15	22.12	22.30	22.19	22.20	22.17	22.63	22.25	22.22	22.58	21.69	22.13
28	22.20	22.15	22.26	22.19	22.18	22.16	22.44	22.33	22.18	22.42	21.63	22.41
29	22.19	22.18	22.24	22.17	22.17	22.16	22.34	22.31	22.17	22.28	21.58	22.42
30	---	22.17	22.26	22.17	---	22.18	22.28	22.27	22.16	22.21	21.54	22.32
31	---	---	22.24	22.15	---	22.28	---	22.43	---	22.18	21.49	---
MEAN	---	---	22.26	22.30	22.27	22.21	22.36	22.16	22.33	22.16	21.98	21.99
MAX	---	---	22.46	22.67	22.69	22.31	22.93	22.43	23.87	22.58	22.18	22.85
MIN	---	---	22.12	22.15	22.14	22.16	22.18	22.07	22.16	22.07	21.49	21.12

03178150 MIDDLE FORK BRUSH CREEK AT EDISON, WV—Continued



03179000 BLUESTONE RIVER NEAR PIPESTEM, WV

LOCATION.--Lat 37°32'38", long 81°00'38", NAD 27, Summers County, 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 mi^2.

PERIOD OF RECORD.--July 1950 to current year.

REVISED RECORDS.--WSP 1705: 1959. WDR WV-82-1: Drainage area. WDR WV-97-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,527.35 ft above mean sea level (U.S. Army Corps of Engineers bench mark).

REMARKS.--Records good except those for period of estimated daily discharge (ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 19	1130	*18,700	*15.57	May 31	1000	5,850	9.97
Jan 3	0200	4,510	9.14	Sep 18	0430	5,440	9.73
Apr 14	0230	8,150	11.03				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	212	650	616	244	316	1,100	632	3,600	266	350	81
2	125	192	588	2,090	272	338	1,660	574	1,420	232	383	74
3	115	176	518	3,950	322	383	1,750	646	827	347	444	69
4	107	163	490	2,090	528	349	1,460	545	842	1,160	376	66
5	104	194	778	1,960	521	329	1,100	477	1,550	698	669	62
6	101	1,150	949	3,080	1,240	812	844	426	1,030	386	1,080	60
7	94	1,420	832	1,910	3,660	1,430	714	372	722	279	550	61
8	91	896	699	1,260	2,420	1,230	624	330	550	229	348	1,600
9	87	590	622	1,020	1,330	993	547	296	578	193	255	2,000
10	85	440	651	830	992	808	471	269	490	170	205	825
11	85	364	1,350	657	866	657	428	564	432	158	176	453
12	86	351	1,270	610	774	567	594	542	634	157	174	304
13	76	739	948	580	734	489	3,680	390	3,200	159	206	229
14	101	580	821	556	744	428	7,310	331	1,820	184	220	189
15	550	464	714	555	694	395	3,900	280	1,690	143	173	164
16	376	428	636	515	609	548	1,970	276	1,150	132	259	167
17	235	392	896	462	537	878	1,300	258	900	118	281	1,170
18	186	360	1,320	906	495	750	982	257	632	113	188	4,650
19	160	10,600	1,040	1,980	472	816	794	261	574	109	154	2,000
20	140	9,470	815	1,310	510	766	675	221	569	101	133	942
21	127	3,050	644	900	782	721	601	206	445	94	126	583
22	119	1,540	584	734	747	624	523	179	367	104	133	404
23	113	1,020	667	593	618	535	463	163	330	233	139	316
24	104	810	1,610	530	551	481	478	159	372	161	114	259
25	98	689	2,020	460	515	437	408	168	379	126	114	223
26	95	561	1,270	427	462	392	1,530	457	1,070	146	101	199
27	222	484	915	396	414	361	2,880	1,660	776	2,380	91	182
28	437	490	744	353	368	342	1,560	2,150	523	1,270	84	793
29	370	675	638	322	333	316	985	2,120	396	548	80	1,160
30	297	681	679	e280	---	319	757	1,090	318	325	83	715
31	244	---	708	250	---	533	---	4,290	---	245	86	---
TOTAL	5,260	39,181	27,066	32,182	22,754	18,343	42,088	20,589	28,186	10,966	7,775	20,000
MEAN	170	1,306	873	1,038	785	592	1,403	664	940	354	251	667
MAX	550	10,600	2,020	3,950	3,660	1,430	7,310	4,290	3,600	2,380	1,080	4,650
MIN	76	163	490	250	244	316	408	159	318	94	80	60
CFSM	0.43	3.31	2.21	2.63	1.99	1.50	3.55	1.68	2.38	0.90	0.63	1.69
IN.	0.50	3.69	2.55	3.03	2.14	1.73	3.96	1.94	2.65	1.03	0.73	1.88

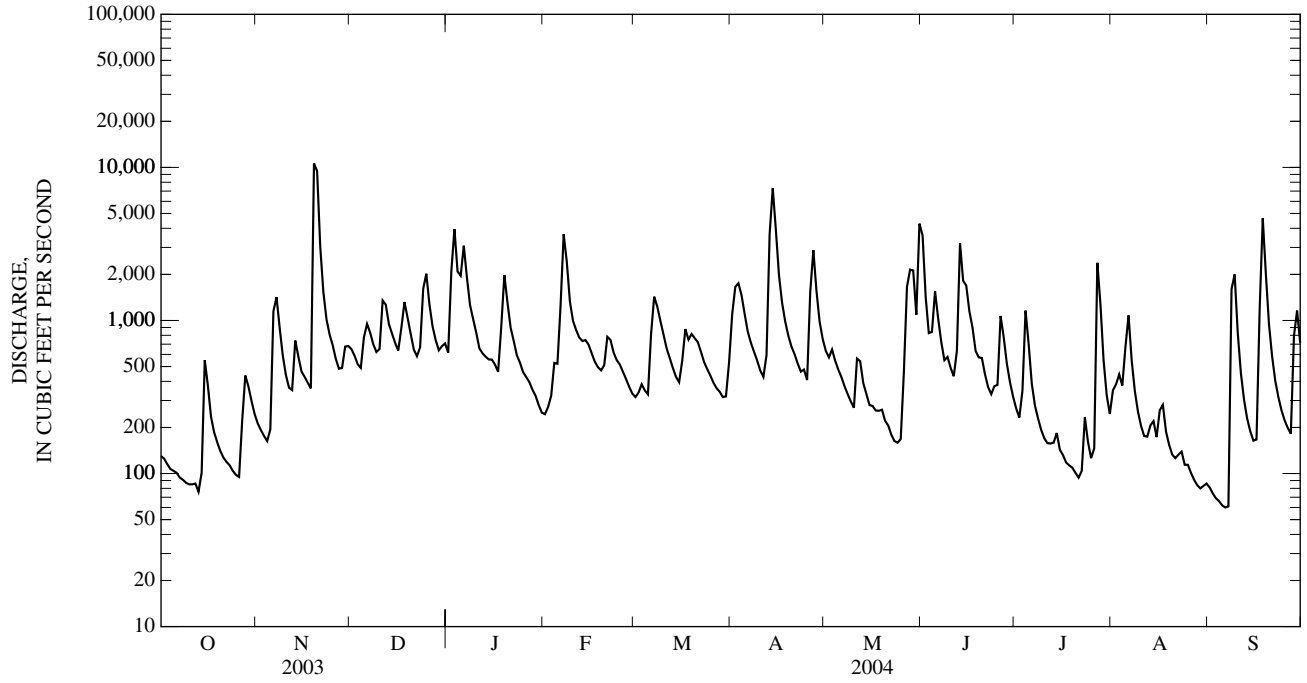
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2004, BY WATER YEAR (WY)

MEAN	141	257	473	673	927	1,061	816	652	320	176	130	105
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)

03179000 BLUESTONE RIVER NEAR PIPESTEM, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1950 - 2004	
ANNUAL TOTAL	289,373		274,390			
ANNUAL MEAN	793		750		475	
HIGHEST ANNUAL MEAN					773	2003
LOWEST ANNUAL MEAN					178	1988
HIGHEST DAILY MEAN	10,600	Nov 19	10,600	Nov 19	15,900	Apr 5, 1977
LOWEST DAILY MEAN	76	Oct 13	60	Sep 6	7.0	Sep 22, 1955
ANNUAL SEVEN-DAY MINIMUM	86	Oct 7	68	Sep 1	8.5	Sep 18, 1955
MAXIMUM PEAK FLOW			18,700	Nov 19	19,300	Apr 5, 1977
MAXIMUM PEAK STAGE			15.57	Nov 19	15.82	Apr 5, 1977
INSTANTANEOUS LOW FLOW			59	Sep 6	7.0	(a)
ANNUAL RUNOFF (CFSM)	2.01		1.90		1.20	
ANNUAL RUNOFF (INCHES)	27.25		25.84		16.34	
10 PERCENT EXCEEDS	1,570		1,540		1,120	
50 PERCENT EXCEEDS	478		492		206	
90 PERCENT EXCEEDS	137		117		37	

a Sept. 21-23, 30, 1955.
e Estimated.



03180500 GREENBRIER RIVER AT DURBIN, WV

LOCATION.--Lat 38°32'37", long 79°50'00", NAD 27, Pocahontas County, 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 mi^2.

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

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-02-1: 1999(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,699.71 ft above NGVD 29.

REMARKS.--Records fair except those for periods of estimated daily discharges (doubtful or no gage-height record, ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	2330	3,600	5.38	Mar 6	0930	3,010	4.97
Nov 19	1530	5,810	6.62	Apr 13	2400	4,210	5.77
Feb 6	unknown	*7,390	(a)*7.33	May 28	0800	3,460	5.29

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	225	357	375	e43	367	335	304	468	45	209	e16
2	113	198	307	524	e40	962	373	398	383	42	132	e15
3	100	174	273	1,050	e50	1,550	396	857	302	39	263	e14
4	108	156	247	1,180	e60	1,910	434	639	258	58	171	e14
5	118	159	231	856	e52	2,010	404	467	293	42	146	e13
6	102	e230	215	e650	e400	2,550	389	347	254	39	120	e13
7	90	e380	179	e540	e2,600	1,830	439	284	219	38	87	e13
8	83	e350	e160	e460	e1,200	1,120	517	244	183	44	69	243
9	79	e300	e150	e400	e640	742	479	211	197	30	56	402
10	75	e250	193	e340	e450	544	391	183	195	139	47	208
11	71	e230	1,200	e280	379	452	357	245	192	200	41	138
12	68	e1,100	e750	e250	320	412	628	328	277	160	41	102
13	65	2,530	e620	e260	288	353	2,420	408	210	144	83	80
14	84	1,130	e500	e220	268	321	2,960	365	197	128	49	64
15	457	683	e420	e190	248	329	1,350	309	210	111	38	52
16	409	476	e340	e170	e220	471	792	375	179	83	56	44
17	328	363	e290	e140	e200	735	552	301	201	66	47	68
18	285	298	e340	e155	e180	691	414	283	167	102	33	391
19	240	2,820	e300	e165	e190	882	332	362	158	144	28	265
20	212	2,130	e250	e140	254	836	289	381	139	92	25	198
21	191	962	e220	e120	629	1,400	273	614	115	70	31	152
22	181	586	e200	e130	537	1,160	231	1,070	105	57	58	115
23	170	408	e240	e115	419	e880	215	660	98	57	33	91
24	143	339	e1,100	e100	374	e620	223	419	86	59	24	74
25	125	296	e1,300	e90	328	474	202	313	77	43	e23	64
26	118	253	e760	e82	303	406	1,550	342	125	36	e21	55
27	337	228	e560	e74	283	378	1,530	594	89	45	e20	49
28	567	293	e420	e66	262	355	823	2,470	69	74	e19	640
29	458	426	e370	e59	293	313	509	1,520	59	42	e18	746
30	325	395	362	e52	---	296	368	854	51	40	e18	444
31	262	---	394	e48	---	311	---	613	---	77	e17	---
TOTAL	6,086	18,368	13,248	9,281	11,510	25,660	20,175	16,760	5,556	2,346	2,023	4,783
MEAN	196	612	427	299	397	828	672	541	185	75.7	65.3	159
MAX	567	2,820	1,300	1,180	2,600	2,550	2,960	2,470	468	200	263	746
MIN	65	156	150	48	40	296	202	183	51	30	17	13
CFSM	1.48	4.60	3.21	2.25	2.98	6.22	5.06	4.07	1.39	0.57	0.49	1.20
IN.	1.70	5.14	3.71	2.60	3.22	7.18	5.64	4.69	1.55	0.66	0.57	1.34

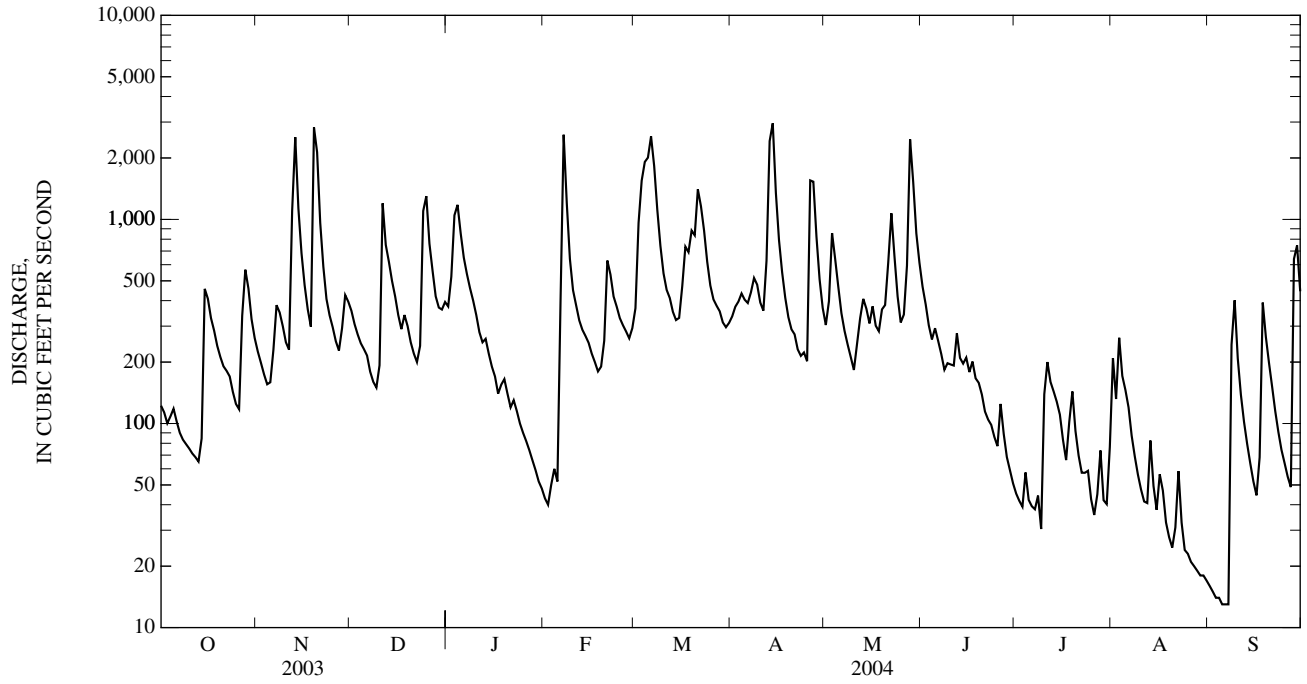
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2004, BY WATER YEAR (WY)

MEAN	105	223	322	368	430	574	429	333	163	100	88.1	73.1
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	234	142	77.9	21.9	10.9	6.01	1.82
(WY)	(1954)	(1954)	(1961)	(1981)	(1993)	(1957)	(1955)	(1976)	(1991)	(1988)	(1999)	(1953)

03180500 GREENBRIER RIVER AT DURBIN, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1943 - 2004	
ANNUAL TOTAL	165,191		135,796			
ANNUAL MEAN	453		371		267	
HIGHEST ANNUAL MEAN					472	1996
LOWEST ANNUAL MEAN					164	1999
HIGHEST DAILY MEAN	4,120	May 11	2,960	Apr 14	13,200	Nov 4, 1985
LOWEST DAILY MEAN	42	Aug 4	(e)13	(b)	0.50	(c)
ANNUAL SEVEN-DAY MINIMUM	56	Aug 1	14	Sep 1	0.51	Sep 28, 1953
MAXIMUM PEAK FLOW			7,390	Feb 6	(d)37,100	Nov 4, 1985
MAXIMUM PEAK STAGE			(a)7.33	Feb 6	(f)15.82	Nov 4, 1985
INSTANTANEOUS LOW FLOW			(g)	(g)	0.00	(h)
ANNUAL RUNOFF (CFSM)	3.40		2.79		2.01	
ANNUAL RUNOFF (INCHES)	46.20		37.98		27.25	
10 PERCENT EXCEEDS	1,130		827		620	
50 PERCENT EXCEEDS	260		248		140	
90 PERCENT EXCEEDS	78		44		16	

a From crest-stage gage.
b Sept. 5-7.
c Sept. 29 to Oct. 4, 1953, Oct. 2, 3, 1968, and Sept. 11, 1995.
d From rating curve extended above 5,000 ft^3/s on basis of slope-area measurement of peak flow.
e Estimated.
f From floodmark.
g Not determined.
h Oct. 2, 3, 1968.



03182050 MARLIN RUN AT MARLINTON, WV
(Detention Reservoir)

LOCATION.---Lat 38°13' 12", long 80°04' 52", NAD 27, Pocahontas County, Hydrologic Unit 05050003.

DAM NAME.---Marlin Run 1.

SURFACE AREA.---2 acres.

DRAINAGE AREA.---1.25 mi^2.

PERIOD OF RECORD.---November 2002 to September 2003.

GAGE.---Water-stage recorder with satellite telemeter. Datum of gage is 2,190.0 ft above NGVD 29.

REMARKS.--- 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

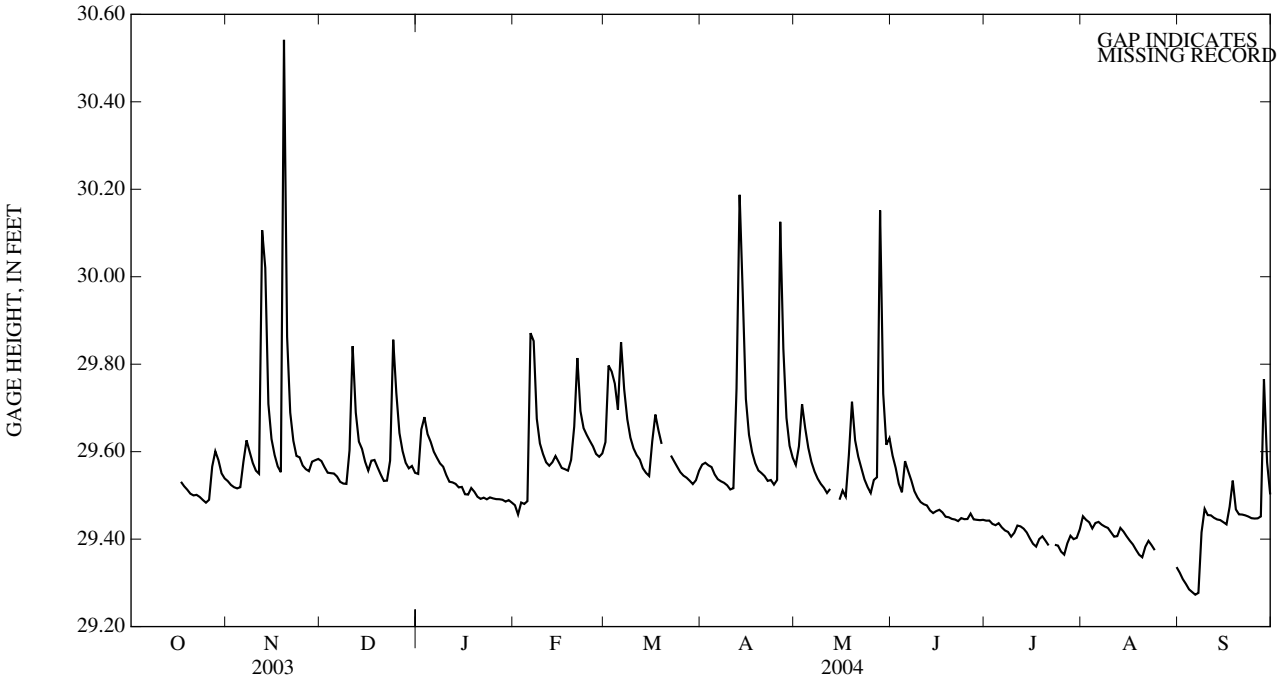
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 32.72 ft, Nov. 19, 2003; minimum gage height, 29.27 ft, Sept. 5-7, 2004.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 32.72 ft, Nov. 19; minimum gage height, 29.27 ft, Sept. 5-7.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	29.53	29.58	29.55	29.48	29.62	29.57	29.57	29.59	29.44	29.45	29.32
2	---	29.52	29.56	29.65	29.46	29.80	29.57	29.61	29.56	29.44	29.44	29.31
3	---	29.52	29.55	29.68	29.48	29.78	29.57	29.71	29.53	29.43	29.44	29.30
4	---	29.52	29.55	29.64	29.48	29.76	29.56	29.65	29.51	29.43	29.42	29.29
5	---	29.52	29.55	29.62	29.49	29.70	29.55	29.61	29.58	29.44	29.44	29.28
6	---	29.58	29.54	29.60	29.87	29.85	29.54	29.58	29.56	29.43	29.44	29.27
7	---	29.63	29.53	29.59	29.85	29.74	29.53	29.55	29.53	29.42	29.43	29.28
8	---	29.60	29.53	29.57	29.68	29.67	29.53	29.54	29.51	29.42	29.43	29.42
9	---	29.57	29.53	29.57	29.62	29.63	29.52	29.53	29.50	29.41	29.43	29.47
10	---	29.56	29.60	29.55	29.59	29.61	29.51	29.52	29.48	29.41	29.42	29.45
11	---	29.55	29.84	29.53	29.58	29.59	29.52	29.51	29.48	29.43	29.41	29.45
12	---	30.11	29.69	29.53	29.57	29.58	29.74	29.51	29.48	29.43	29.41	29.45
13	---	30.02	29.62	29.53	29.58	29.56	30.19	---	29.47	29.42	29.43	29.45
14	---	29.71	29.61	29.52	29.59	29.55	29.96	---	29.46	29.42	29.42	29.44
15	---	29.63	29.58	29.52	29.58	29.54	29.72	29.49	29.46	29.40	29.41	29.44
16	---	29.59	29.56	29.50	29.56	29.62	29.64	29.51	29.47	29.39	29.40	29.43
17	29.53	29.57	29.58	29.50	29.56	29.68	29.60	29.50	29.46	29.38	29.39	29.47
18	29.52	29.55	29.58	29.52	29.56	29.65	29.57	29.59	29.45	29.40	29.38	29.53
19	29.51	30.54	29.56	29.51	29.58	29.62	29.56	29.71	29.45	29.41	29.36	29.47
20	29.50	29.86	29.55	29.50	29.66	---	29.55	29.63	29.45	29.40	29.36	29.46
21	29.50	29.69	29.53	29.49	29.81	---	29.54	29.59	29.44	29.39	29.38	29.46
22	29.50	29.62	29.53	29.49	29.69	29.59	29.53	29.56	29.44	---	29.40	29.45
23	29.50	29.59	29.58	29.49	29.65	29.58	29.54	29.54	29.45	29.39	29.39	29.45
24	29.49	29.59	29.86	29.50	29.64	29.57	29.52	29.52	29.45	29.39	29.37	29.45
25	29.48	29.57	29.73	29.49	29.62	29.55	29.54	29.51	29.45	29.37	---	29.45
26	29.49	29.56	29.64	29.49	29.61	29.55	30.13	29.54	29.46	29.36	---	29.45
27	29.57	29.56	29.60	29.49	29.59	29.54	29.84	29.54	29.45	29.39	---	29.45
28	29.60	29.58	29.57	29.49	29.59	29.53	29.68	30.15	29.44	29.41	---	29.77
29	29.58	29.58	29.56	29.49	29.60	29.53	29.61	29.73	29.44	29.40	---	29.58
30	29.55	29.58	29.57	29.49	---	29.53	29.59	29.62	29.44	29.40	---	29.50
31	29.54	---	29.55	29.48	---	29.56	---	29.63	---	29.42	29.34	---
MEAN	---	29.65	29.59	29.53	29.61	---	29.63	---	29.48	---	---	29.43
MAX	---	30.54	29.86	29.68	29.87	---	30.19	---	29.59	---	---	29.77
MIN	---	29.52	29.53	29.48	29.46	---	29.51	---	29.44	---	---	29.27

03182050 MARLIN RUN AT MARLINTON, WV—Continued



03182500 GREENBRIER RIVER AT BUCKEYE, WV

LOCATION.--Lat 38°11'09", long 80°07'51", NAD 27, Pocahontas County, 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. Records include flow of Swago Creek.

DRAINAGE AREA.--540 mi^2, includes that of Swago Creek.

PERIOD OF RECORD.--September 1929 to current year.

REVISED RECORDS.--WSP 758: 1933. WSP 953: 1930-32, 1934-35(M), 1936, 1937(M), 1938-39, l940(M). WSP 1275: 1936.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,085.89 ft above NGVD 29. Prior to Feb. 27, 1939, nonrecording gage at same site and datum.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect, no gage-height record), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	0300	23,500	13.89	Apr 13	2200	19,400	12.71
Nov 19	2000	*31,800	*15.91	Apr 26	1800	11,900	10.21
Feb 7	0200	13,100	10.64	May 28	1400	12,500	10.42

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	488	821	1,390	1,140	e200	1,170	838	1,090	e1,300	141	201	70
2	422	702	1,230	1,570	e190	2,600	901	1,010	e1,100	137	296	67
3	367	611	1,060	2,840	e280	4,740	936	3,410	e940	134	275	65
4	328	539	942	3,270	399	4,300	955	2,480	747	130	339	71
5	319	494	897	2,550	371	4,620	940	1,740	1,090	139	264	67
6	316	687	841	2,120	2,850	6,150	855	1,300	1,270	135	327	67
7	279	1,200	727	1,670	8,990	5,430	839	1,000	976	118	235	66
8	252	1,120	604	1,390	3,710	3,460	884	809	750	114	173	217
9	232	957	584	1,250	2,090	2,320	908	673	673	109	143	1,860
10	221	821	638	1,010	1,580	1,770	785	567	631	113	125	971
11	209	724	5,900	765	1,230	1,460	679	492	549	144	111	532
12	197	2,850	3,560	768	1,030	1,320	1,400	682	556	280	103	348
13	187	13,800	2,180	786	957	1,120	10,200	739	559	276	119	260
14	206	4,400	1,710	623	927	948	11,900	734	513	210	123	208
15	1,280	2,470	1,380	573	846	886	4,780	645	1,030	199	129	172
16	1,550	1,700	1,070	443	749	1,060	2,660	662	812	169	118	149
17	1,140	1,300	1,000	439	651	2,140	1,840	655	792	149	215	191
18	943	1,040	1,180	495	617	1,990	1,390	2,010	648	144	158	1,360
19	769	13,500	1,040	508	636	2,290	1,110	1,910	501	148	122	1,370
20	645	11,400	898	392	960	2,340	945	1,520	416	208	104	744
21	555	4,070	753	362	2,830	2,760	862	1,170	341	163	100	482
22	509	2,410	690	409	2,480	2,810	756	2,980	292	138	109	349
23	470	1,700	820	376	1,730	1,990	671	2,120	270	126	128	272
24	425	1,360	3,320	350	1,460	1,510	638	1,340	255	117	128	221
25	362	1,340	3,950	e310	1,300	1,220	593	940	227	117	100	189
26	325	1,130	2,370	e280	1,200	1,020	6,720	789	221	113	86	166
27	559	1,010	1,670	e260	1,050	896	6,400	2,330	232	110	79	152
28	2,000	999	1,320	e240	943	836	3,100	7,850	204	121	80	3,660
29	1,670	1,520	1,130	e230	996	732	1,880	e4,900	171	126	78	4,300
30	1,260	1,460	1,120	e220	---	661	1,360	e2,300	152	128	74	1,730
31	980	---	1,210	e210	---	706	---	e1,700	---	147	70	---
TOTAL	19,465	78,135	47,184	27,849	43,252	67,255	68,725	52,547	18,218	4,603	4,712	20,376
MEAN	628	2,604	1,522	898	1,491	2,170	2,291	1,695	607	148	152	679
MAX	2,000	13,800	5,900	3,270	8,990	6,150	11,900	7,850	1,300	280	339	4,300
MIN	187	494	584	210	190	661	593	492	152	109	70	65
CFSM	1.16	4.82	2.82	1.66	2.76	4.02	4.24	3.14	1.12	0.27	0.28	1.26
IN.	1.34	5.38	3.25	1.92	2.98	4.63	4.73	3.62	1.26	0.32	0.32	1.40

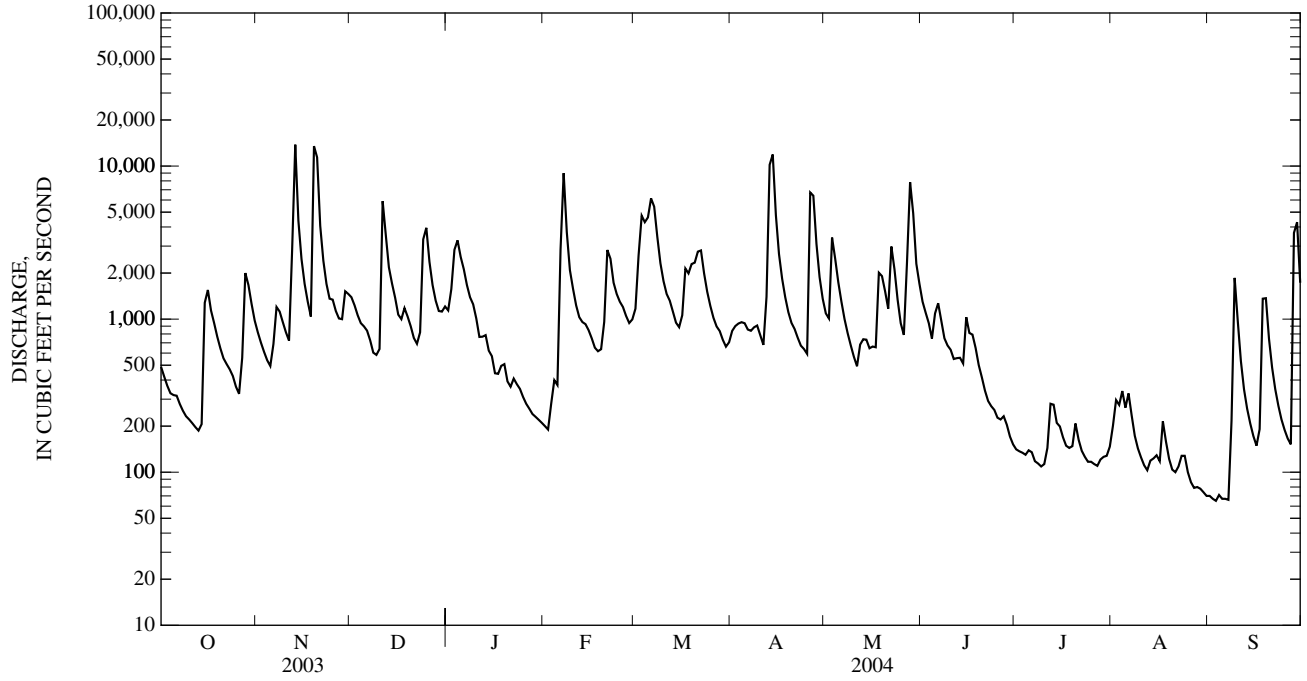
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2004, BY WATER YEAR (WY)

MEAN	341	666	1,071	1,286	1,510	1,958	1,399	1,115	537	338	314	229
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	764	508	224	67.9	27.8	21.5	13.5
(WY)	(1931)	(1931)	(1931)	(1981)	(1934)	(1988)	(1963)	(1930)	(1991)	(1930)	(1930)	(1930)

03182500 GREENBRIER RIVER AT BUCKEYE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1930 - 2004	
ANNUAL TOTAL	581,812		452,321			
ANNUAL MEAN	1,594		1,236		894	
HIGHEST ANNUAL MEAN					1,573	2003
LOWEST ANNUAL MEAN					492	1941
HIGHEST DAILY MEAN	13,900	Feb 23	13,800	Nov 13	44,400	Nov 5, 1985
LOWEST DAILY MEAN	94	(a)	65	Sep 3	5.2	Aug 13, 1930
ANNUAL SEVEN-DAY MINIMUM	102	Aug 1	68	Sep 1	7.3	Sep 28, 1930
MAXIMUM PEAK FLOW			31,800	Nov 19	(b)82,000	Nov 5, 1985
MAXIMUM PEAK STAGE			15.91	Nov 19	(c)23.20	Nov 5, 1985
INSTANTANEOUS LOW FLOW			64	Sep 3	3.8	Aug 13, 1930
ANNUAL RUNOFF (CFSM)	2.95		2.29		1.66	
ANNUAL RUNOFF (INCHES)	40.08		31.16		22.50	
10 PERCENT EXCEEDS	3,650		2,690		2,100	
50 PERCENT EXCEEDS	943		754		422	
90 PERCENT EXCEEDS	231		128		55	

a July 28, Aug. 4.
b From rating curve extended above 33,000 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks.
e Estimated.



03182888 DRY CREEK AT TUCKAHOE, WV
(Detention Reservoir)

LOCATION.-- Lat 37°41'33", long 80°16'44", Greenbrier County, Hydrologic Unit 05050003.

DAM NAME- Howard Creek #12.

SURFACE AREA.--39 acres.
DRAINAGE AREA: 0.46 mi^2.

PERIOD OF RECORD.--October 2003 to September 2004.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 2,016.54 ft above NGVD 29.

REMARKS.-- 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

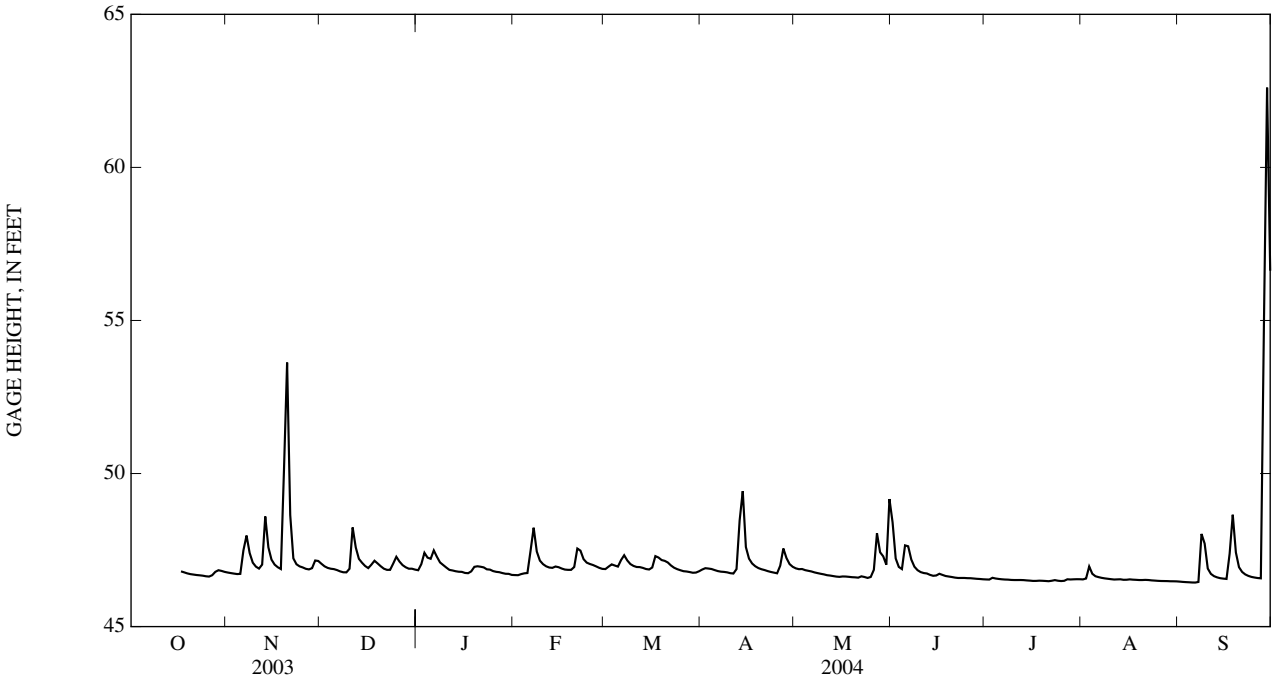
Gage orifice = 42.30 ft

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 64.23 ft, Sept. 28; minimum gage height, 46.43 ft, Sept. 5, 6.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	46.77	47.05	46.84	46.68	46.88	46.86	46.90	48.41	46.54	46.54	46.47
2	---	46.75	46.97	47.04	46.68	46.96	46.91	46.88	47.23	46.54	46.57	46.46
3	---	46.73	46.92	47.41	46.72	47.03	46.90	46.88	46.95	46.59	46.96	46.45
4	---	46.72	46.89	47.25	46.74	46.99	46.88	46.84	46.88	46.57	46.73	46.45
5	---	46.72	46.88	47.22	46.75	46.96	46.85	46.82	47.65	46.56	46.65	46.44
6	---	47.49	46.85	47.49	47.47	47.17	46.81	46.80	47.62	46.55	46.62	46.44
7	---	47.97	46.80	47.28	48.23	47.33	46.79	46.77	47.19	46.54	46.59	46.46
8	---	47.40	46.77	47.10	47.45	47.16	46.79	46.75	46.96	46.53	46.58	48.03
9	---	47.09	46.77	47.01	47.15	47.04	46.77	46.72	46.84	46.52	46.56	47.71
10	---	46.96	46.89	46.93	47.04	46.98	46.74	46.71	46.78	46.52	46.55	46.90
11	---	46.89	48.24	46.85	46.97	46.95	46.73	46.68	46.75	46.52	46.54	46.72
12	---	47.03	47.58	46.83	46.93	46.94	46.88	46.67	46.74	46.52	46.54	46.65
13	---	48.60	47.21	46.81	46.92	46.92	48.47	46.65	46.69	46.52	46.55	46.61
14	---	47.59	47.09	46.79	46.96	46.88	49.43	46.63	46.66	46.51	46.53	46.58
15	---	47.19	46.98	46.79	46.94	46.87	47.60	46.62	46.67	46.50	46.53	46.57
16	---	47.03	46.91	46.75	46.90	46.93	47.22	46.64	46.73	46.49	46.54	46.56
17	46.80	46.94	47.02	46.74	46.86	47.30	47.06	46.63	46.69	46.49	46.53	47.38
18	46.77	46.88	47.15	46.80	46.85	47.26	46.97	46.63	46.65	46.50	46.53	48.65
19	46.74	50.12	47.06	46.95	46.85	47.17	46.91	46.61	46.64	46.50	46.52	47.42
20	46.71	53.62	46.97	46.97	46.95	47.15	46.87	46.61	46.62	46.49	46.52	46.94
21	46.70	48.64	46.89	46.96	47.55	47.09	46.85	46.60	46.60	46.48	46.53	46.79
22	46.68	47.23	46.85	46.93	47.48	47.00	46.81	46.64	46.59	46.50	46.52	46.70
23	46.67	47.04	46.85	46.87	47.20	46.92	46.78	46.62	46.59	46.52	46.51	46.66
24	46.66	46.97	47.06	46.86	47.09	46.88	46.76	46.59	46.59	46.50	46.50	46.62
25	46.64	46.93	47.28	46.81	47.05	46.84	46.74	46.62	46.58	46.49	46.49	46.60
26	46.63	46.89	47.13	46.79	47.01	46.81	46.99	46.85	46.58	46.50	46.49	46.59
27	46.68	46.87	47.01	46.78	46.97	46.80	47.55	48.05	46.57	46.55	46.49	46.58
28	46.79	46.91	46.94	46.75	46.92	46.78	47.24	47.43	46.56	46.54	46.49	54.95
29	46.84	47.16	46.89	46.73	46.88	46.76	47.04	47.30	46.55	46.54	46.48	62.61
30	46.82	47.14	46.89	46.72	---	46.76	46.95	47.02	46.55	46.55	46.48	56.63
31	46.79	---	46.86	46.69	---	46.81	---	49.17	---	46.55	46.48	---
MEAN	---	47.48	47.02	46.93	47.04	46.98	47.07	46.88	46.84	46.52	46.55	47.95
MAX	---	53.62	48.24	47.49	48.23	47.33	49.43	49.17	48.41	46.59	46.96	62.61
MIN	---	46.72	46.77	46.69	46.68	46.76	46.73	46.59	46.55	46.48	46.48	46.44

03182888 DRY CREEK AT TUCKAHOE, WV—Continued



03183500 GREENBRIER RIVER AT ALDERSON, WV

LOCATION.--Lat 37°43'27", long 80°38'30", NAD 27, Monroe County, 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 mi^2.

PERIOD OF RECORD.--July 1895 to current year. 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 1,529.42 ft above NGVD 29. Prior to Oct. 15, 1929, nonrecording gage at bridge 400 ft downstream at same datum.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect, no gage-height record), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 19,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	1400	36,400	14.77	Apr 14	1030	32,900	13.78
Nov 20	0930	*45,400	*16.88	Apr 27	0530	20,300	10.17
Feb 7	1230	22,400	10.77	Sep 28	2230	26,900	12.05

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,700	2,040	2,930	2,450	e490	2,400	1,750	2,840	6,770	359	255	185
2	1,370	1,740	2,720	2,770	e480	3,200	2,000	2,440	4,270	330	519	178
3	1,120	1,530	2,410	5,930	627	6,980	2,080	3,190	2,950	338	892	165
4	970	1,340	2,130	6,370	766	7,030	2,090	5,320	2,380	327	892	151
5	864	1,240	2,010	5,950	680	6,970	2,050	3,910	8,100	307	558	144
6	793	2,560	1,900	5,810	2,650	7,370	1,910	3,040	8,400	323	711	143
7	732	4,800	1,740	4,770	17,800	e11,000	1,760	2,430	5,010	303	888	146
8	671	4,290	1,540	3,680	10,700	e7,500	1,720	1,980	3,180	284	561	296
9	589	3,140	1,370	3,110	5,900	e5,300	1,750	1,660	2,620	263	409	2,820
10	538	2,470	1,370	2,710	4,130	4,130	1,680	1,440	2,110	244	323	3,580
11	498	2,060	6,580	2,050	3,360	3,320	1,500	1,240	1,810	244	269	1,870
12	473	2,100	9,300	1,730	2,810	2,870	1,560	1,260	1,610	230	238	1,110
13	451	26,100	5,630	1,720	2,560	2,570	10,200	1,220	1,460	237	244	725
14	439	13,700	4,170	1,690	2,640	2,200	28,000	1,350	1,360	361	249	513
15	928	6,690	3,420	1,460	2,540	1,940	13,500	1,350	1,150	359	232	403
16	3,270	4,510	2,740	1,270	2,260	2,070	7,150	1,390	1,950	293	227	336
17	2,900	3,400	2,590	1,000	2,020	4,840	4,880	1,370	2,310	265	225	344
18	2,230	2,680	3,140	1,060	1,840	5,400	3,640	1,440	1,950	252	229	5,960
19	1,830	10,700	2,970	1,490	1,780	4,680	2,860	3,340	1,490	251	238	5,080
20	1,550	35,700	2,490	1,450	2,350	5,080	2,380	3,740	1,150	247	261	2,960
21	1,310	13,100	2,040	1,290	4,960	4,750	2,160	2,700	936	231	239	1,780
22	1,160	7,050	1,700	1,030	7,190	5,060	1,940	2,170	794	263	222	1,210
23	1,050	4,630	1,680	992	5,150	4,380	1,700	4,000	692	357	201	875
24	966	3,520	3,730	973	4,090	3,400	1,510	2,760	665	342	187	667
25	876	3,070	9,510	854	3,640	2,780	1,420	1,990	601	258	185	525
26	781	2,770	6,450	667	3,270	2,350	3,650	1,590	555	227	190	446
27	842	2,400	4,470	e630	2,910	2,040	16,400	2,180	529	250	192	394
28	2,450	2,270	3,390	e590	2,520	1,830	8,220	5,210	474	352	178	7,990
29	4,130	2,550	2,780	e570	2,280	1,670	5,100	11,700	443	336	176	19,200
30	3,250	3,080	2,490	e540	---	1,540	3,640	5,990	408	261	163	7,430
31	2,530	---	2,530	e510	---	1,540	---	7,170	---	234	167	---
TOTAL	43,261	177,230	103,920	67,116	104,393	128,190	140,200	93,410	68,127	8,928	10,520	67,626
MEAN	1,396	5,908	3,352	2,165	3,600	4,135	4,673	3,013	2,271	288	339	2,254
MAX	4,130	35,700	9,510	6,370	17,800	11,000	28,000	11,700	8,400	361	892	19,200
MIN	439	1,240	1,370	510	480	1,540	1,420	1,220	408	227	163	143
CFSM	1.02	4.33	2.46	1.59	2.64	3.03	3.43	2.21	1.66	0.21	0.25	1.65
IN.	1.18	4.83	2.83	1.83	2.85	3.50	3.82	2.55	1.86	0.24	0.29	1.84

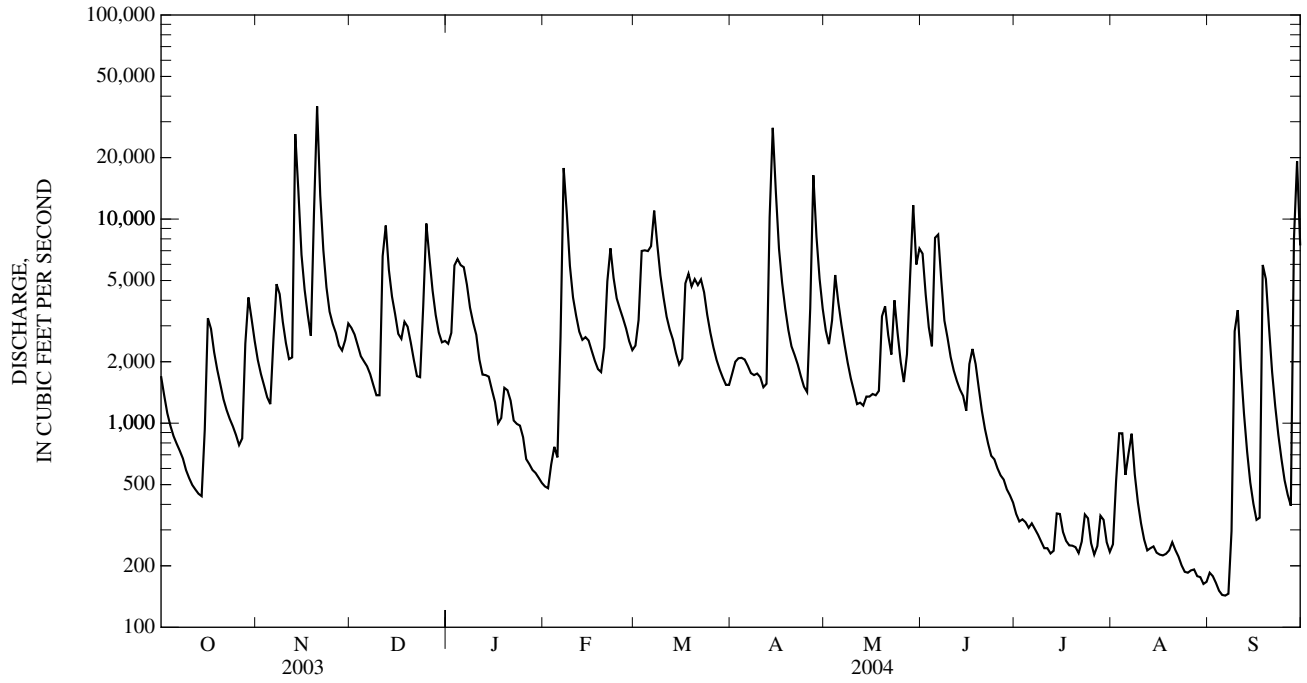
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 2004, BY WATER YEAR (WY)

MEAN	720	1,300	2,254	3,028	3,493	4,510	3,100	2,425	1,356	812	716	468
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	1,332	802	489	203	68.9	43.2	33.8
(WY)	(1931)	(1931)	(1931)	(1981)	(1934)	(1915)	(1915)	(1941)	(1991)	(1930)	(1930)	(1930)

03183500 GREENBRIER RIVER AT ALDERSON, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1895 - 2004	
ANNUAL TOTAL	1,344,649		1,012,921			
ANNUAL MEAN	3,684		2,768		2,010	
HIGHEST ANNUAL MEAN					3,606	2003
LOWEST ANNUAL MEAN					983	1941
HIGHEST DAILY MEAN	41,000	Feb 23	35,700	Nov 20	63,100	Jan 20, 1996
LOWEST DAILY MEAN	277	Aug 29	143	Sep 6	26	Aug 11, 1930
ANNUAL SEVEN-DAY MINIMUM	329	Jul 28	159	Sep 1	28	Sep 29, 1930
MAXIMUM PEAK FLOW			45,400	Nov 20	(a)94,000	Jan 20, 1996
MAXIMUM PEAK STAGE			16.88	Nov 20	24.33	Jan 20, 1996
INSTANTANEOUS LOW FLOW			141	(b)	24	(c)
ANNUAL RUNOFF (CFSM)	2.70		2.03		1.47	
ANNUAL RUNOFF (INCHES)	36.67		27.63		20.02	
10 PERCENT EXCEEDS	7,660		5,970		4,830	
50 PERCENT EXCEEDS	2,470		1,820		950	
90 PERCENT EXCEEDS	535		252		144	

a From rating curve extended above 37,000 ft^3/s on basis of slope-area measurement of peak flow.
b Sept. 4-7.
c Aug. 12, Oct. 1, 2, 1930.
e Estimated.



03184000 GREENBRIER RIVER AT HILLDALE, WV

LOCATION.--Lat 37°38'24", long 80°48'19", NAD 27, Summers County, 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. Records include flow of Howard Creek.

DRAINAGE AREA.--1,619 mi^2, includes that of Howard Creek.

PERIOD OF RECORD.--June 1936 to current year.

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).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,388.66 ft above mean sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good except those for periods of estimated discharges (ice effect), which are poor.

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 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 24,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	1900	39,200	17.21	Apr 14	1500	36,300	16.47
Nov 20	1400	*49,000	*19.57	Sep 29	0400	29,700	14.68
Feb 7	1700	25,300	13.40				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,000	2,380	3,670	2,930	674	2,640	1,930	3,640	9,760	411	287	138
2	1,550	1,980	3,400	3,370	e650	3,110	2,430	3,290	5,740	371	322	139
3	1,240	1,690	3,000	6,990	738	6,720	2,580	4,070	3,890	343	643	137
4	1,050	1,470	2,660	7,790	858	8,150	2,580	6,190	3,290	381	907	128
5	931	1,320	2,500	7,540	932	7,670	2,500	4,940	12,500	356	792	119
6	844	2,780	2,450	7,600	3,640	8,080	2,330	3,780	12,200	332	614	109
7	777	5,520	2,230	6,250	19,900	12,100	2,090	2,960	7,050	330	729	107
8	727	5,490	1,900	4,800	14,900	9,130	1,960	2,370	4,420	318	781	282
9	664	4,000	1,680	3,940	8,030	6,700	1,950	1,930	3,370	295	599	2,300
10	606	3,070	1,600	3,430	5,500	5,090	1,910	1,610	2,800	270	444	3,930
11	565	2,520	5,420	2,660	4,470	4,070	1,730	1,380	2,340	270	348	2,560
12	536	2,250	11,800	2,180	3,780	3,450	1,820	1,260	2,020	265	290	1,490
13	512	23,700	7,260	1,950	3,460	3,060	9,850	1,210	1,810	252	259	957
14	494	19,200	5,270	2,030	3,540	2,640	31,100	1,370	1,600	265	255	676
15	608	8,800	4,290	1,780	3,430	2,290	18,300	1,360	1,400	365	257	522
16	2,540	5,880	3,480	1,560	3,020	2,440	9,410	1,480	1,620	361	308	427
17	3,340	4,420	3,330	1,260	2,670	5,580	6,380	1,490	2,590	319	297	386
18	2,520	3,500	4,060	1,190	2,420	6,840	4,720	1,560	2,410	303	282	4,510
19	2,000	12,200	3,820	1,770	2,230	5,850	3,700	2,720	1,850	287	279	6,320
20	1,680	42,400	3,190	1,890	2,640	6,010	3,060	4,320	1,390	282	270	3,870
21	1,390	17,800	2,640	1,490	5,080	5,820	2,800	3,220	1,080	280	293	2,330
22	1,200	9,500	2,150	1,320	8,740	5,800	2,590	2,440	899	286	278	1,610
23	1,060	6,250	1,980	1,260	6,590	5,390	2,250	3,760	772	543	248	1,150
24	977	4,710	3,970	1,150	5,120	4,200	1,950	3,270	720	498	220	845
25	902	4,020	11,400	1,220	4,460	3,410	1,740	2,320	670	407	207	632
26	823	3,620	8,540	912	4,000	2,840	3,690	1,770	621	326	186	517
27	852	3,130	5,850	874	3,580	2,450	18,600	2,080	564	461	180	444
28	1,800	2,900	4,380	e810	3,070	2,170	11,000	4,010	533	481	179	4,690
29	4,430	3,140	3,560	e770	2,690	1,920	6,690	13,000	485	476	168	24,100
30	3,810	3,700	3,120	e730	---	1,760	4,700	7,550	461	402	153	10,100
31	2,980	---	3,010	e700	---	1,720	---	9,240	---	324	148	---
TOTAL	45,408	213,340	127,610	84,146	130,812	149,100	168,340	105,590	90,855	10,860	11,223	75,525
MEAN	1,465	7,111	4,116	2,714	4,511	4,810	5,611	3,406	3,028	350	362	2,518
MAX	4,430	42,400	11,800	7,790	19,900	12,100	31,100	13,000	12,500	543	907	24,100
MIN	494	1,320	1,600	700	650	1,720	1,730	1,210	461	252	148	107
CFSM	0.90	4.39	2.54	1.68	2.79	2.97	3.47	2.10	1.87	0.22	0.22	1.55
IN.	1.04	4.90	2.93	1.93	3.01	3.43	3.87	2.43	2.09	0.25	0.26	1.74

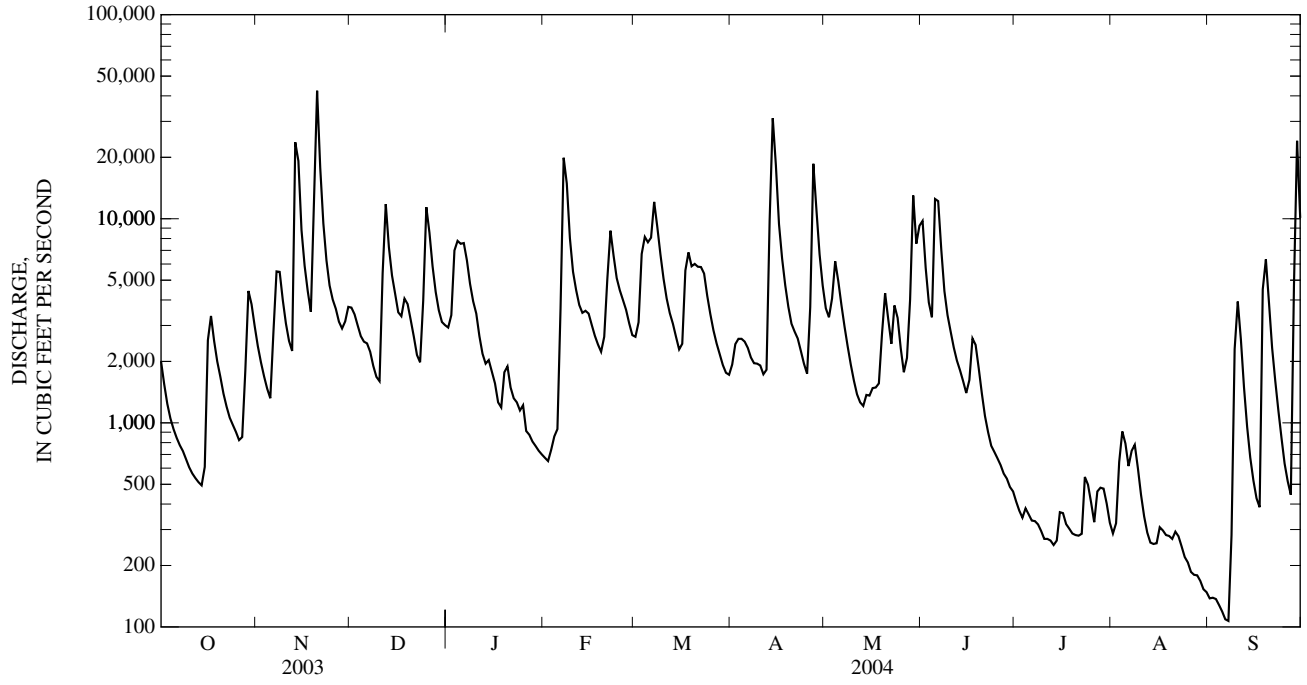
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2004, BY WATER YEAR (WY)

MEAN	803	1,471	2,655	3,377	4,122	5,149	3,652	2,900	1,497	781	749	536
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	1,436	901	586	219	84.4	72.1	59.6
(WY)	(1954)	(1954)	(1961)	(1981)	(2002)	(1988)	(1986)	(1941)	(1999)	(1999)	(1987)	(1946)

03184000 GREENBRIER RIVER AT HILLDALE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1936 - 2004	
ANNUAL TOTAL	1,608,676		1,212,809			
ANNUAL MEAN	4,407		3,314		2,301	
HIGHEST ANNUAL MEAN					4,360	2003
LOWEST ANNUAL MEAN					1,189	1941
HIGHEST DAILY MEAN	49,300	Feb 23	42,400	Nov 20	79,400	Jan 20, 1996
LOWEST DAILY MEAN	333	Jul 30	107	Sep 7	39	Sep 19, 1946
ANNUAL SEVEN-DAY MINIMUM	350	Jul 28	125	Sep 1	44	Oct 17, 1953
MAXIMUM PEAK FLOW			49,000	Nov 20	93,000	Jan 20, 1996
MAXIMUM PEAK STAGE			19.57	Nov 20	26.88	Jan 20, 1996
INSTANTANEOUS LOW FLOW			105	(a)	39	(b)
ANNUAL RUNOFF (CFSM)	2.72		2.05		1.42	
ANNUAL RUNOFF (INCHES)	36.96		27.87		19.31	
10 PERCENT EXCEEDS	9,540		7,340		5,590	
50 PERCENT EXCEEDS	3,010		2,200		1,070	
90 PERCENT EXCEEDS	617		294		151	

a Sept 7, 8.
b Sept. 18-20, 1946, Sept. 16, 1964.
e Estimated.



03185000 PINEY CREEK AT RALEIGH, WV

LOCATION (REVISED).--Lat 37°45'38", long 81°09'45", NAD 27, Raleigh County, 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 mi^2, revised.

PERIOD OF RECORD.--August 1951 to September 1982, December 2002 to current year.

REVISED RECORDS.--WSP 1435: 1955(M). WDR WV-97-1: Drainage area, 1961(m), 1963(m), 1967(m), 1970(m) 1972(m), 1977(m), 1980(m).

GAGE.--Water-stage recorder. Datum of gage is unknown. Prior to Dec. 4, 2002, gage located 500 ft upstream.

REMARKS.--Records good except those for period of estimated daily discharges (ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 19	1430	2,710	8.91	Apr 13	2400	2,480	8.27
Jan 3	0100	787	4.15	May 31	0900	*2,790	*9.12
Feb 6	2000	1,120	4.84	Jun 16	0200	1,690	6.17

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	35	123	115	e35	42	144	88	799	46	143	23
2	32	33	112	418	e33	43	268	90	332	41	97	21
3	25	32	99	675	60	51	322	109	186	40	121	19
4	24	30	96	343	65	49	270	85	157	51	89	18
5	23	34	115	425	75	46	185	78	206	42	109	17
6	22	148	119	575	599	334	143	70	172	34	136	16
7	21	247	108	321	840	303	127	60	126	28	95	17
8	20	141	97	199	392	201	106	53	98	27	71	239
9	19	98	93	153	191	139	87	48	82	27	55	262
10	19	76	100	118	137	103	71	43	73	104	44	137
11	18	62	181	100	112	83	63	50	66	83	37	84
12	18	155	174	91	97	69	88	63	63	58	48	59
13	17	556	128	85	88	56	938	55	85	42	49	47
14	98	255	118	76	88	50	1,300	52	70	33	38	39
15	188	166	105	76	79	46	585	37	196	28	38	34
16	75	127	97	64	68	127	307	32	747	25	54	31
17	53	113	148	60	61	170	202	30	176	49	37	149
18	44	99	160	165	56	136	147	28	114	63	29	401
19	37	1,690	138	262	54	123	113	36	100	38	27	209
20	32	1,490	117	171	56	107	95	60	119	29	27	117
21	29	495	99	118	84	115	88	40	91	24	36	81
22	27	247	91	100	93	98	75	32	76	114	52	60
23	24	165	106	81	72	88	67	28	124	142	34	48
24	23	141	314	66	66	76	63	26	91	77	41	40
25	23	120	313	62	63	65	53	27	146	53	45	35
26	24	101	191	59	57	57	184	94	221	69	25	32
27	44	87	143	52	53	53	264	186	120	525	12	31
28	47	146	122	47	48	51	178	241	83	323	16	201
29	44	168	108	46	44	46	125	237	66	153	21	123
30	41	136	138	41	---	47	100	140	53	100	19	73
31	37	---	131	37	---	85	---	1,960	---	78	20	---
TOTAL	1,188	7,393	4,184	5,201	3,766	3,059	6,758	4,178	5,038	2,546	1,665	2,663
MEAN	38.3	246	135	168	130	98.7	225	135	168	82.1	53.7	88.8
MAX	188	1,690	314	675	840	334	1,300	1,960	799	525	143	401
MIN	17	30	91	37	33	42	53	26	53	24	12	16
CFSM	0.73	4.68	2.56	3.18	2.46	1.87	4.27	2.56	3.19	1.56	1.02	1.68
IN.	0.84	5.22	2.95	3.67	2.66	2.16	4.77	2.95	3.56	1.80	1.18	1.88

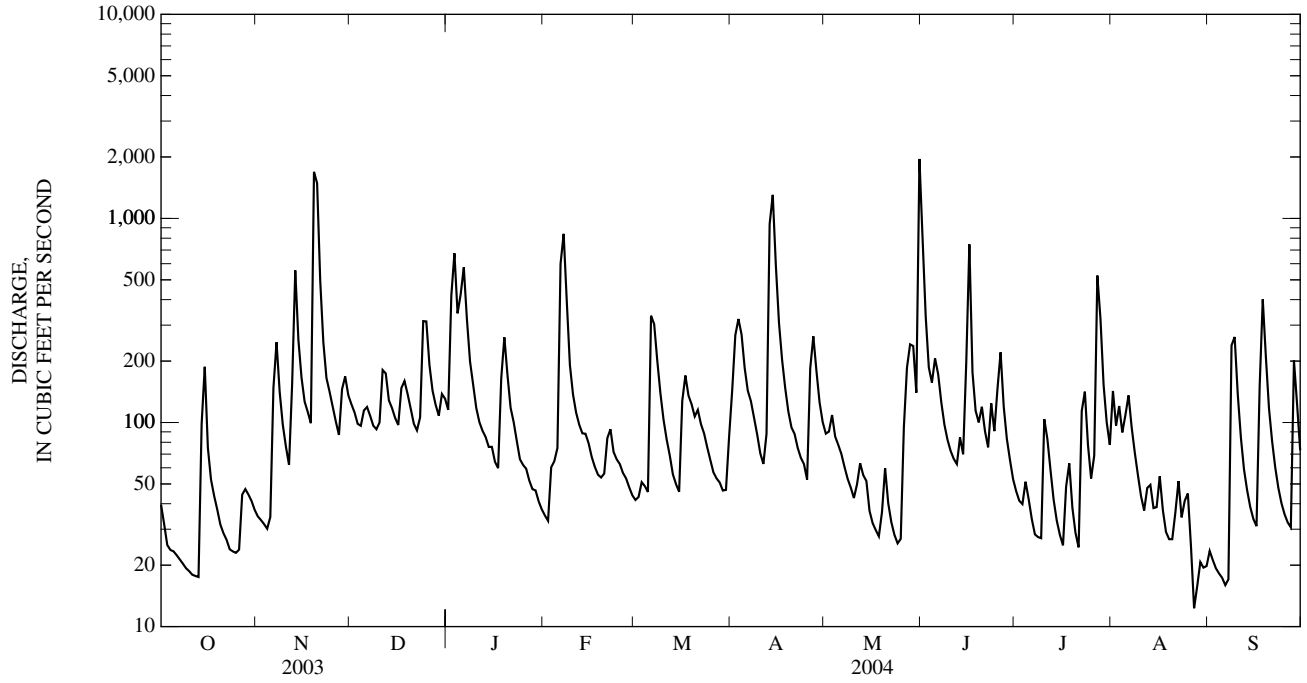
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2004, BY WATER YEAR (WY)

MEAN	18.8	39.1	72.8	99.6	122	139	108	84.7	48.9	29.5	25.5	18.6
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	47.6	26.6	15.7	5.94	2.82	2.29	1.39
(WY)	(1964)	(1966)	(1966)	(1966)	(1978)	(1969)	(1963)	(1964)	(1964)	(1966)	(1964)	(1965)

03185000 PINEY CREEK AT RALEIGH, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1951 - 2004	
ANNUAL TOTAL	57,894		47,639			
ANNUAL MEAN	159		130		64.7	
HIGHEST ANNUAL MEAN					130	2004
LOWEST ANNUAL MEAN					30.1	1966
HIGHEST DAILY MEAN	1,940	Feb 23	1,960	May 31	2,210	Mar 12, 1963
LOWEST DAILY MEAN	13	Aug 31	12	Aug 27	0.20	(a)
ANNUAL SEVEN-DAY MINIMUM	15	Aug 27	19	Sep 1	0.20	Sep 5, 1964
MAXIMUM PEAK FLOW			2,790	May 31	2,870	Mar 12, 1963
MAXIMUM PEAK STAGE			9.12	May 31	9.12	May 31, 2004
INSTANTANEOUS LOW FLOW			8.9	Aug 27	0.20	(a)
ANNUAL RUNOFF (CFSM)	3.01		2.47		1.23	
ANNUAL RUNOFF (INCHES)	40.87		33.63		16.68	
10 PERCENT EXCEEDS	343		247		146	
50 PERCENT EXCEEDS	98		81		32	
90 PERCENT EXCEEDS	28		27		4.2	

a Sept. 5-18, 21-23, 1964.
e Estimated.



03185400 NEW RIVER AT THURMOND, WV

LOCATION.--Lat 37°57'18", long 81°04'36", NAD 27, Fayette County, 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 mi^2, excluding that of Dunloup Creek.

PERIOD OF RECORD.--February 1981 to current year.

REVISED RECORDS.--WDR WV-97-1: 1981-92(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,030.71 ft above NGVD 29.

REMARKS.--Records good except those for periods of estimated discharges (doubtful or no gage-height record) which are fair. Flow regulated by Claytor Lake and Bluestone Lake.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 84,600 ft^3/s, Nov. 20, gage height, 19.05 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7,220	5,940	11,200	12,000	6,080	8,020	9,680	11,800	31,900	5,300	4,080	2,290
2	6,190	5,370	11,700	12,800	4,940	9,510	14,000	11,100	19,700	4,940	4,320	2,000
3	5,670	4,420	12,300	24,000	4,670	12,700	14,400	e12,200	12,800	4,910	6,010	1,970
4	4,900	4,350	10,900	24,600	6,690	17,000	13,100	e13,300	9,850	5,300	7,340	2,450
5	5,070	5,350	13,300	20,300	12,700	17,000	10,200	e12,000	30,600	6,390	5,490	2,460
6	4,910	7,860	15,100	24,500	19,800	20,100	10,100	e10,000	32,500	7,100	5,800	2,670
7	4,610	17,300	14,200	23,100	43,900	22,600	11,300	8,650	20,700	5,570	5,730	2,070
8	4,620	17,400	10,300	17,900	48,300	20,800	9,530	7,820	14,400	4,630	4,680	8,380
9	4,490	13,000	9,080	16,500	34,500	17,900	9,300	6,930	10,300	4,080	4,250	28,600
10	4,020	9,570	8,200	13,500	24,800	16,300	8,880	5,960	11,800	4,150	3,550	36,100
11	3,110	7,870	15,300	9,680	18,700	13,900	7,560	6,140	11,700	4,220	2,990	29,800
12	4,730	8,880	34,800	8,550	16,900	11,900	6,140	6,790	10,300	3,810	2,970	12,600
13	4,380	25,000	29,000	8,410	14,800	10,800	23,300	6,790	11,100	3,780	3,280	8,120
14	4,470	35,700	19,500	9,860	14,000	9,910	65,300	6,490	12,800	4,460	5,570	7,060
15	5,690	17,400	12,900	9,180	13,400	6,890	57,600	6,350	13,100	3,380	3,570	6,400
16	6,510	12,000	12,100	8,580	10,400	7,970	43,400	6,130	15,200	3,180	3,330	8,420
17	8,150	8,690	14,600	9,150	11,800	15,100	31,500	6,410	17,000	3,510	3,010	10,400
18	7,210	8,100	17,300	9,120	13,400	18,800	18,100	6,540	14,600	3,230	2,500	22,300
19	6,390	44,300	19,500	8,910	12,100	16,500	15,300	7,140	11,200	3,140	2,340	11,400
20	4,850	69,000	16,900	11,600	10,800	15,300	12,600	10,200	8,760	3,480	2,300	6,940
21	4,310	65,100	13,200	10,500	13,100	14,500	11,500	8,650	7,980	4,660	2,770	12,500
22	5,120	56,900	11,000	9,710	19,300	11,800	11,200	6,920	6,600	3,760	2,800	35,900
23	4,920	48,100	9,000	8,870	20,900	12,200	8,990	8,230	6,260	4,870	2,710	35,000
24	4,600	41,500	12,500	8,420	19,900	12,800	8,770	7,700	6,160	4,360	2,540	23,300
25	4,290	35,000	23,700	6,910	16,500	10,400	8,440	6,350	6,920	3,530	2,500	6,620
26	4,040	23,600	23,500	5,420	14,500	8,860	10,500	5,600	7,890	3,590	2,440	5,630
27	3,640	13,500	17,400	6,490	13,200	8,250	33,300	9,390	10,500	8,080	2,420	6,340
28	e7,500	12,700	14,400	7,260	11,400	7,320	29,700	14,000	10,400	8,770	2,240	9,920
29	e11,000	11,600	12,600	6,910	9,640	6,040	19,600	21,800	7,910	6,260	1,960	52,600
30	9,950	12,100	11,300	6,670	---	6,000	14,500	17,400	6,280	5,070	2,400	49,900
31	7,530	---	12,900	5,930	---	7,320	---	30,800	---	3,940	3,130	---
TOTAL	174,090	647,600	469,680	365,330	481,120	394,490	547,790	305,580	397,210	145,450	111,020	450,140
MEAN	5,616	21,590	15,150	11,780	16,590	12,730	18,260	9,857	13,240	4,692	3,581	15,000
MAX	11,000	69,000	34,800	24,600	48,300	22,600	65,300	30,800	32,500	8,770	7,340	52,600
MIN	3,110	4,350	8,200	5,420	4,670	6,000	6,140	5,600	6,160	3,140	1,960	1,970

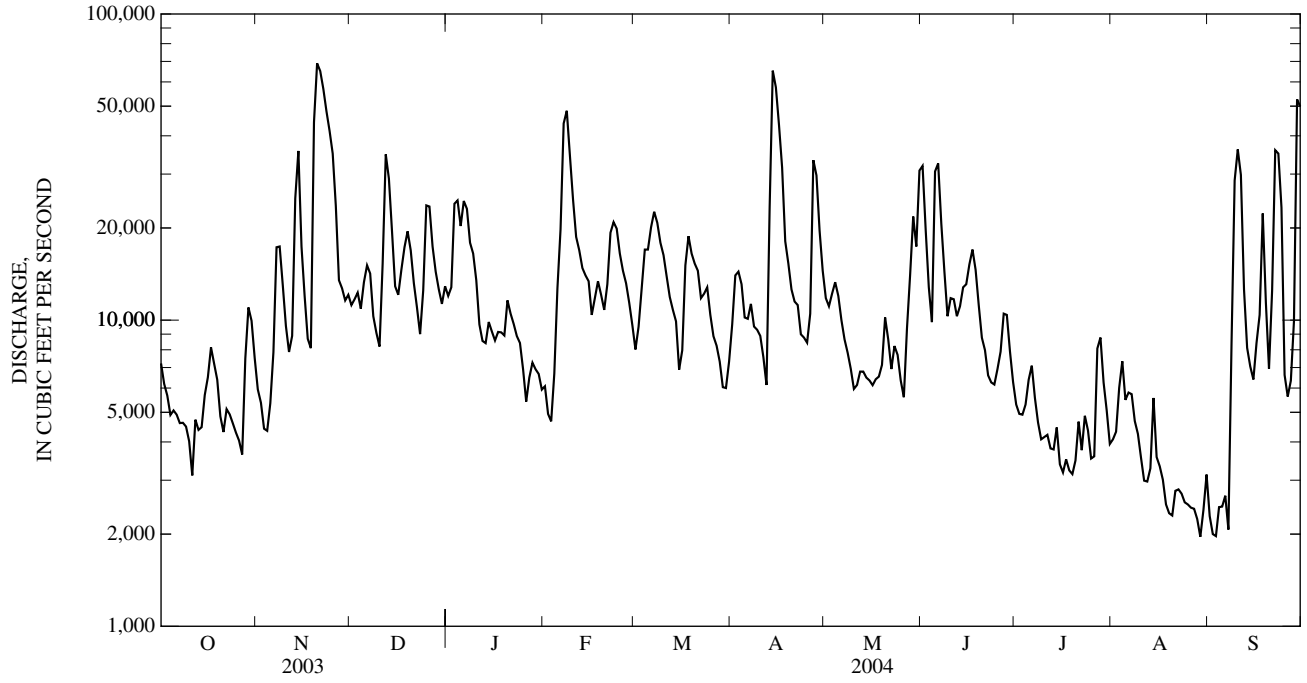
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2004, BY WATER YEAR (WY)

MEAN	3,746	6,412	8,609	11,190	14,960	16,030	13,940	11,800	7,640	4,557	4,026	3,885
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	1,626
(WY)	(1992)	(2002)	(2002)	(2000)	(2002)	(1988)	(1986)	(2000)	(1988)	(1988)	(1988)	(1998)

03185400 NEW RIVER AT THURMOND, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1981 - 2004	
ANNUAL TOTAL	5,584,930		4,489,500			
ANNUAL MEAN	15,300		12,270		8,909	
HIGHEST ANNUAL MEAN					14,600	2003
LOWEST ANNUAL MEAN					4,336	1988
HIGHEST DAILY MEAN	83,800	Feb 23	69,000	Nov 20	92,500	Jan 20, 1996
LOWEST DAILY MEAN	3,110	Oct 11	1,960	Aug 29	808	Jul 11, 1988
ANNUAL SEVEN-DAY MINIMUM	4,260	Oct 8	2,270	Sep 1	852	Jul 6, 1988
MAXIMUM PEAK FLOW			84,600	Nov 20	(a)100,000	Jan 20, 1996
MAXIMUM PEAK STAGE			19.05	Nov 20	20.35	Jan 20, 1996
INSTANTANEOUS LOW FLOW			1,860	(b)	589	Oct 20, 1994
10 PERCENT EXCEEDS	32,200		23,600		19,300	
50 PERCENT EXCEEDS	11,700		9,240		5,460	
90 PERCENT EXCEEDS	4,810		3,580		1,810	

a From rating curve extended above 59,000 ft^3/s.
b Aug 29, 30.
e Estimated.



03186500 WILLIAMS RIVER AT DYER, WV

LOCATION.--Lat 38°22'44", long 80°29'03", NAD 27, Webster County, 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 mi^2.

PERIOD OF RECORD.--September 1929 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1275: 1930.

GAGE.--Water-stage recorder. Datum of gage is 2,193.46 ft above mean sea level, adjustment of 1912. Prior to June 11, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	2230	13,300	13.32	May 28	0830	5,460	8.20
Nov 19	1400	*20,000	*16.99	Sep 18	0330	5,790	8.43
Apr 13	1730	6,230	8.72	Sep 28	1630	10,900	11.83

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116	285	417	434	e80	251	392	285	628	32	17	13
2	112	241	349	1,420	e84	881	420	273	506	29	35	10
3	95	208	293	1,860	136	1,130	431	617	360	30	38	8.3
4	96	181	256	1,560	146	1,410	564	398	295	27	31	7.1
5	121	191	241	1,420	128	1,440	470	323	1,650	39	24	6.4
6	106	513	230	1,160	1,840	2,800	406	266	965	31	33	15
7	91	673	199	720	2,170	1,500	507	220	578	23	35	11
8	83	496	171	522	934	994	858	186	374	19	22	980
9	76	376	176	428	587	686	937	159	291	17	17	1,310
10	72	299	213	311	452	521	637	135	449	67	13	488
11	67	258	1,380	235	345	434	499	124	264	121	12	230
12	61	3,280	738	e210	285	401	948	153	408	65	12	146
13	58	3,930	512	e185	244	326	3,420	118	253	53	18	105
14	93	1,120	427	168	215	292	2,790	110	192	38	21	80
15	1,170	680	363	163	190	434	1,250	125	213	29	19	63
16	623	486	284	112	167	766	786	111	172	24	26	51
17	415	391	380	139	154	1,060	558	111	257	19	52	1,210
18	341	310	357	242	149	695	417	186	175	23	25	3,430
19	267	6,740	312	311	139	1,020	325	454	149	21	17	877
20	219	2,340	256	233	165	764	266	392	122	25	14	431
21	189	1,020	220	207	488	1,480	246	278	95	19	15	262
22	170	652	220	202	429	877	203	308	82	15	43	178
23	156	468	300	173	332	602	182	219	103	15	36	131
24	135	386	1,380	175	305	479	205	165	96	18	21	98
25	118	385	1,000	205	265	403	170	133	73	16	15	81
26	109	302	639	201	237	374	1,650	375	87	14	12	71
27	418	258	468	138	214	352	1,140	1,220	78	18	10	62
28	618	394	391	128	192	319	675	3,060	57	26	8.9	3,510
29	471	692	359	e110	215	263	467	1,330	45	31	8.1	1,740
30	435	491	568	e100	---	232	353	710	38	20	25	697
31	344	---	539	e92	---	273	---	686	---	16	19	---
TOTAL	7,445	28,046	13,638	13,564	11,287	23,459	22,172	13,230	9,055	940	694.0	16,301.8
MEAN	240	935	440	438	389	757	739	427	302	30.3	22.4	543
MAX	1,170	6,740	1,380	1,860	2,170	2,800	3,420	3,060	1,650	121	52	3,510
MIN	58	181	171	92	80	232	170	110	38	14	8.1	6.4
CFSM	1.88	7.30	3.44	3.42	3.04	5.91	5.77	3.33	2.36	0.24	0.17	4.25
IN.	2.16	8.15	3.96	3.94	3.28	6.82	6.44	3.84	2.63	0.27	0.20	4.74

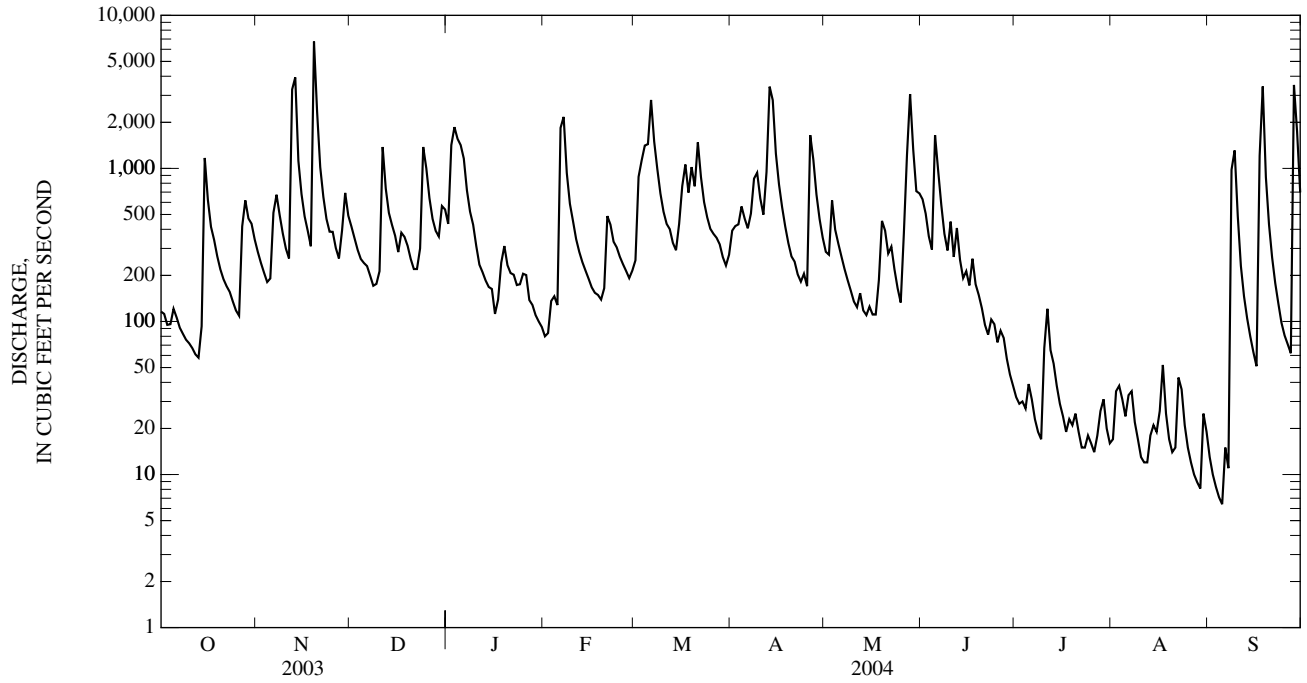
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2004, BY WATER YEAR (WY)

MEAN	164	305	413	455	515	659	494	369	213	187	166	103
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	326	160	66.1	19.5	5.85	6.97	2.34
(WY)	(1954)	(1954)	(1940)	(1940)	(1978)	(1976)	(1995)	(1964)	(1965)	(1930)	(1944)	(1953)

03186500 WILLIAMS RIVER AT DYER, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1929 - 2004	
ANNUAL TOTAL	180,181		159,831.8			
ANNUAL MEAN	494		437		336	
HIGHEST ANNUAL MEAN					483	2003
LOWEST ANNUAL MEAN					187	1941
HIGHEST DAILY MEAN	6,740	Nov 19	6,740	Nov 19	10,000	Jul 4, 1932
LOWEST DAILY MEAN	31	Aug 28	6.4	Sep 5	0.50	(a)
ANNUAL SEVEN-DAY MINIMUM	52	Jul 30	10	Sep 1	0.54	Oct 11, 1953
MAXIMUM PEAK FLOW			20,000	Nov 19	(b)22,000	Jul 4, 1932
MAXIMUM PEAK STAGE			16.99	Nov 19	(c)18.45	Jul 4, 1932
INSTANTANEOUS LOW FLOW			5.9	Sep 5	0.49	(d)
ANNUAL RUNOFF (CFSM)	3.86		3.41		2.63	
ANNUAL RUNOFF (INCHES)	52.37		46.45		35.69	
10 PERCENT EXCEEDS	1,170		1,030		767	
50 PERCENT EXCEEDS	299		239		182	
90 PERCENT EXCEEDS	80		21		20	

a Oct. 13-16, 21, 1953.
b From rating curve extended above 7,000 ft^3/s on basis of slope-area measurements at gage heights 12.33 ft and 18.45 ft.
c From floodmarks.
d Sept. 12, 13, 1995.
e Estimated.



03187500 CRANBERRY RIVER NEAR RICHWOOD, WV

LOCATION.--Lat 38°17'43", long 80°31'36", NAD 27, Nicholas County, 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 mi^2.

PERIOD OF RECORD.--October 1944 to December 1951, June 1964 to September 1982, March 1984 to current year.

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. Elevation of gage is approximately 2,100 ft above NGVD 29, from topographic map.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect, equipment failure), which are poor. Gage-height data for water years 1972-79 provided by U.S. Forest Service.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 19, 1954, reached a stage of 12.22 ft, discharge, 12,200 ft^3/s, from floodmarks, present site and datum.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	2200	7,300	9.50	Sep 8	1700	3,010	6.86
Nov 19	1300	*12,200	*11.90	Sep 18	0300	3,510	7.23
Apr 13	1700	3,460	7.19	Sep 28	1500	4,900	8.11
May 28	0600	3,920	7.51				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	212	269	274	e52	164	234	204	495	25	32	13
2	93	182	227	822	e50	442	235	199	386	27	57	12
3	78	158	194	1,140	131	682	236	428	286	28	149	9.5
4	80	137	170	997	128	834	322	284	245	24	80	8.3
5	104	145	158	965	109	889	282	234	1,600	38	69	7.3
6	90	356	151	754	1,040	1,760	250	195	749	33	139	12
7	79	468	135	e450	1,170	968	315	161	431	20	83	9.5
8	70	337	118	e350	e600	632	570	136	312	16	59	623
9	64	261	118	e285	e425	436	626	117	525	14	44	1,150
10	59	215	144	e220	318	341	433	99	581	116	34	445
11	54	188	859	e165	244	283	337	86	314	206	27	231
12	48	2,210	464	e185	200	257	517	80	533	86	25	155
13	46	2,450	e300	e150	171	214	2,070	76	309	59	39	114
14	74	774	e265	e125	151	193	1,790	75	230	44	38	88
15	830	470	231	e120	134	245	806	70	214	35	28	68
16	492	342	188	e80	119	402	516	73	187	28	46	55
17	321	310	e245	e95	112	642	376	119	244	22	56	803
18	261	269	e230	e230	107	430	288	101	173	28	30	2,210
19	208	4,250	e205	247	100	560	228	161	144	24	22	669
20	171	1,480	e185	199	114	449	187	169	121	21	16	335
21	145	646	e160	e170	266	744	178	133	93	16	28	219
22	128	420	e155	e160	270	e500	145	249	79	14	105	158
23	122	310	e175	e140	217	e360	130	164	95	25	54	119
24	107	260	687	e120	204	308	143	121	88	89	34	92
25	92	273	590	e100	181	263	117	96	65	46	24	76
26	84	207	e360	e110	162	242	1,300	170	66	27	18	63
27	281	175	e280	e100	149	230	862	686	61	34	15	54
28	425	253	e245	e84	134	209	472	2,350	45	83	13	1,810
29	333	424	e230	e76	144	177	331	1,020	36	52	12	1,220
30	310	312	343	e66	---	156	251	501	30	33	11	495
31	250	---	336	e54	---	177	---	567	---	30	11	---
TOTAL	5,596	18,494	8,417	9,033	7,202	14,189	14,547	9,124	8,737	1,343	1,398	11,323.6
MEAN	181	616	272	291	248	458	485	294	291	43.3	45.1	377
MAX	830	4,250	859	1,140	1,170	1,760	2,070	2,350	1,600	206	149	2,210
MIN	46	137	118	54	50	156	117	70	30	14	11	7.3
CFSM	2.25	7.67	3.38	3.62	3.09	5.69	6.03	3.66	3.62	0.54	0.56	4.69
IN.	2.59	8.56	3.89	4.18	3.33	6.57	6.73	4.22	4.04	0.62	0.65	5.24

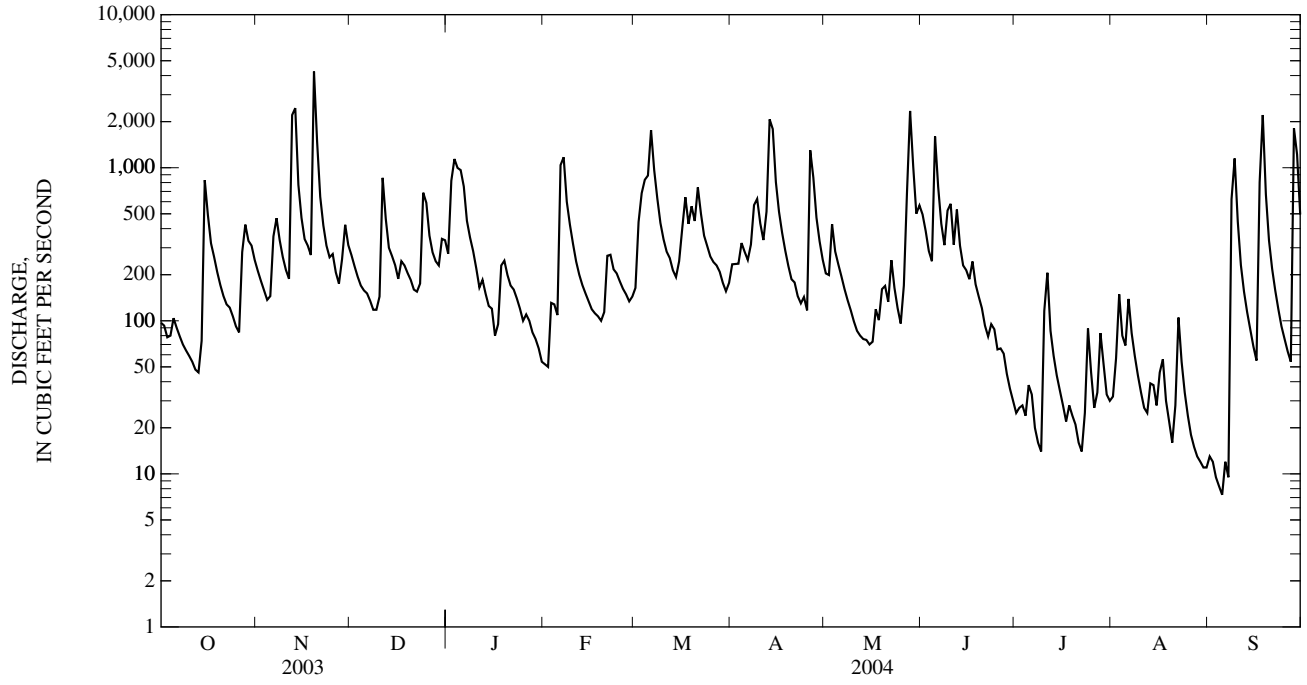
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2004, BY WATER YEAR (WY)

MEAN	119	226	303	313	341	433	315	273	158	126	108	96.2
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	232	114	86.1	12.7	7.64	8.56	2.50
(WY)	(1999)	(2002)	(1966)	(1977)	(1978)	(2001)	(1995)	(1991)	(1966)	(1993)	(1946)	(1946)

03187500 CRANBERRY RIVER NEAR RICHWOOD, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1945 - 2004	
ANNUAL TOTAL	117,464		109,403.6			
ANNUAL MEAN	322		299		233	
HIGHEST ANNUAL MEAN					318	1979
LOWEST ANNUAL MEAN					126	1999
HIGHEST DAILY MEAN	4,250	Nov 19	4,250	Nov 19	6,770	Mar 21, 1984
LOWEST DAILY MEAN	18	Aug 28	7.3	Sep 5	0.16	Aug 21, 1987
ANNUAL SEVEN-DAY MINIMUM	37	Aug 22	10	Sep 1	0.28	Aug 15, 1987
MAXIMUM PEAK FLOW			12,200	Nov 19	(a)12,200	Nov 19, 2003
MAXIMUM PEAK STAGE			11.90	Nov 19	(b)11.93	Aug 21, 1989
INSTANTANEOUS LOW FLOW			6.9	Sep 5	0.14	Aug 22, 1987
ANNUAL RUNOFF (CFSM)	4.00		3.72		2.90	
ANNUAL RUNOFF (INCHES)	54.35		50.62		39.44	
10 PERCENT EXCEEDS	695		673		527	
50 PERCENT EXCEEDS	211		172		135	
90 PERCENT EXCEEDS	67		29		17	

a From rating curve extended above 9,000 ft^3/s on basis of slope-area measurement at gage height 11.00 ft.
b From floodmarks.
e Estimated.



03189100 GAULEY RIVER NEAR CRAIGSVILLE, WV

LOCATION.--Lat 38°17'27", long 80°38'28", NAD 27, Nicholas County, 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 Craigsville, and at mile 61.5.

DRAINAGE AREA.--529 mi^2.

PERIOD OF RECORD.--October 1964 to September 1982, October 1982 to September 1983 (gage heights, discharge measurements, and annual maximum discharge only), October 1985 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,870.00 ft above NGVD 29.

REMARKS.--Records good except those for period of estimated daily discharges (ice effect), which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of 1932 and 1954 were about 105,000 ft^3/s and 67,500 ft^3/s, respectively.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	2300	48,400	23.90	May 28	1400	22,500	18.66
Nov 19	1400	*63,500	*25.94	Jun 5	0530	13,300	16.36
Feb 6	2200	15,300	16.89	Sep 18	0700	16,000	17.09
Mar 6	1230	12,900	16.26	Sep 28	1930	22,600	18.68
Apr 13	2230	20,000	18.08				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	485	1,300	2,080	2,030	495	1,100	1,740	1,390	3,220	165	194	88
2	489	1,120	1,820	4,630	582	2,150	2,120	1,300	2,690	184	340	72
3	416	956	1,590	7,070	694	3,540	2,130	2,170	2,030	162	955	56
4	398	815	1,420	5,880	1,050	3,880	2,680	1,730	1,710	141	459	46
5	485	794	1,330	5,500	926	4,150	2,350	1,490	10,200	203	399	38
6	464	2,080	1,310	5,210	7,510	9,010	2,050	1,290	4,980	186	656	48
7	402	2,930	1,170	3,250	9,850	5,960	2,260	1,090	2,820	144	421	43
8	357	2,310	1,030	2,420	4,190	3,900	3,310	934	1,930	110	304	1,680
9	325	1,810	1,020	2,040	2,650	2,800	3,550	809	1,690	89	219	4,880
10	302	1,470	1,080	1,620	2,090	2,250	2,570	687	1,930	120	164	2,210
11	282	1,250	4,530	1,220	1,700	1,930	2,060	594	1,330	653	132	1,240
12	259	11,200	3,150	e1,050	1,440	1,770	2,190	652	2,010	338	129	818
13	239	18,500	2,350	e920	1,270	1,530	11,400	636	1,430	244	230	588
14	298	4,550	2,100	963	1,140	1,360	12,600	596	1,090	191	210	447
15	3,540	2,780	1,980	930	1,030	1,510	5,680	522	946	144	165	343
16	2,680	2,090	1,650	672	906	2,160	3,430	564	888	116	147	270
17	1,880	1,780	1,910	703	839	4,030	2,480	680	1,100	98	196	1,750
18	1,510	1,460	2,060	1,260	814	2,800	1,950	658	866	109	163	12,100
19	1,230	27,000	1,810	1,890	750	3,380	1,590	1,240	777	106	114	3,690
20	999	11,400	1,550	1,540	825	2,940	1,340	1,570	640	89	91	1,960
21	831	4,490	1,320	1,280	1,680	4,420	1,280	1,280	507	79	152	1,310
22	729	2,890	1,280	1,250	1,900	3,360	1,090	1,500	423	74	449	925
23	657	2,190	1,480	1,110	1,570	2,450	976	1,180	501	141	320	685
24	574	1,850	4,970	980	1,450	2,070	1,040	882	512	462	197	520
25	496	1,830	4,430	831	1,330	1,780	898	729	407	224	134	415
26	450	1,550	2,860	899	1,190	1,610	5,430	1,070	404	142	100	345
27	872	1,360	2,210	868	1,090	1,490	5,040	4,900	430	702	79	293
28	2,160	1,580	1,890	717	987	1,390	2,890	14,500	312	558	68	7,710
29	1,820	2,880	1,730	650	1,000	1,210	2,110	7,050	243	324	68	7,140
30	1,800	2,340	2,240	650	---	1,080	1,670	3,280	199	213	79	2,810
31	1,520	---	2,390	485	---	1,180	---	3,520	---	167	99	---
TOTAL	28,949	120,555	63,740	60,518	52,948	84,190	91,904	60,493	48,215	6,678	7,433	54,520
MEAN	934	4,018	2,056	1,952	1,826	2,716	3,063	1,951	1,607	215	240	1,817
MAX	3,540	27,000	4,970	7,070	9,850	9,010	12,600	14,500	10,200	702	955	12,100
MIN	239	794	1,020	485	495	1,080	898	522	199	74	68	38
CFSM	1.77	7.60	3.89	3.69	3.45	5.13	5.79	3.69	3.04	0.41	0.45	3.44
IN.	2.04	8.48	4.48	4.26	3.72	5.92	6.46	4.25	3.39	0.47	0.52	3.83

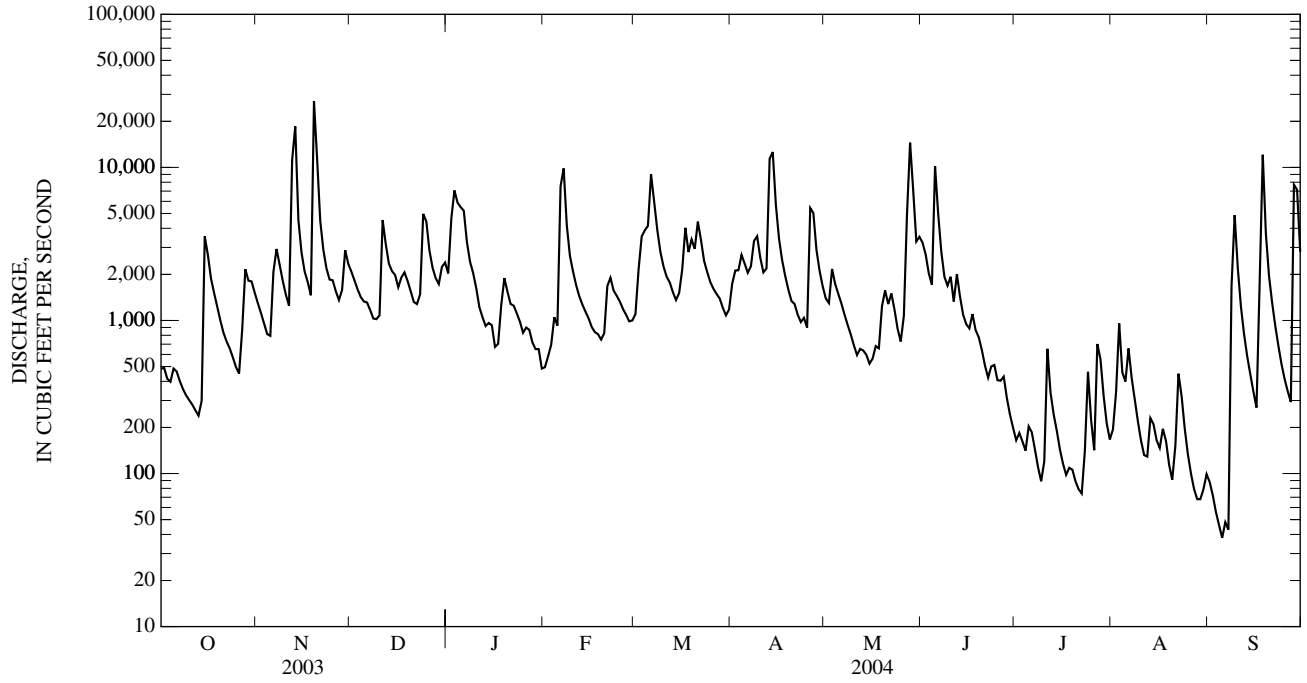
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2004, BY WATER YEAR (WY)

MEAN	734	1,388	1,856	1,892	2,098	2,626	2,016	1,695	973	759	666	548
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	1,433	676	463	100	58.3	67.9	54.3
(WY)	(1993)	(2002)	(1966)	(1977)	(1978)	(1976)	(1995)	(1991)	(1991)	(1999)	(1988)	(1995)

03189100 GAULEY RIVER NEAR CRAIGSVILLE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1965 - 2004	
ANNUAL TOTAL	696,063		680,143			
ANNUAL MEAN	1,907		1,858		1,435	
HIGHEST ANNUAL MEAN					1,944	1996
LOWEST ANNUAL MEAN					854	1999
HIGHEST DAILY MEAN	27,000	Nov 19	27,000	Nov 19	29,800	Oct 9, 1976
LOWEST DAILY MEAN	130	Aug 28	38	Sep 5	8.2	Sep 12, 1995
ANNUAL SEVEN-DAY MINIMUM	205	Aug 24	56	Sep 1	9.0	Sep 10, 1995
MAXIMUM PEAK FLOW			(a)63,500	Nov 19	(a)63,500	Nov 19, 2003
MAXIMUM PEAK STAGE			25.94	Nov 19	25.94	Nov 19, 2003
INSTANTANEOUS LOW FLOW			35	Sep 5	7.6	Aug 22, 1987
ANNUAL RUNOFF (CFSM)	3.60		3.51		2.71	
ANNUAL RUNOFF (INCHES)	48.95		47.83		36.86	
10 PERCENT EXCEEDS	3,520		3,940		3,260	
50 PERCENT EXCEEDS	1,350		1,220		834	
90 PERCENT EXCEEDS	359		163		112	

a From rating curve extended above 35,000 ft^3/s.
e Estimated.



03190400 MEADOW RIVER NEAR MOUNT LOOKOUT, WV

LOCATION.--Lat 38°11'23", long 80°56'49", NAD 27, Nicholas County, Hydrologic Unit 05050005, on right bank 1,000 ft upstream from mouth, and 2.5 mi northwest of Mount Lookout.

DRAINAGE AREA.--365 mi^2.

PERIOD OF RECORD.--September 1966 to September 1983, October 1985 to current year.

REVISED RECORDS.--WDR WV-99-1: 1998 (m).

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is approximately 1,200 ft above NGVD 29, from topographic map.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect, doubtful or no gage-height record), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	0200	11,100	11.19	Apr 14	0330	8,060	9.81
Nov 19	1800	(a)*27,200	(b)*16.31	May 28	0830	6,870	9.27
Feb 6	2330	6,830	9.25				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	260	619	1,240	1,230	e250	665	1,320	896	2,880	99	200	47
2	246	524	1,080	2,120	e240	911	1,910	695	2,130	91	219	38
3	218	452	908	3,520	274	1,430	1,970	955	1,630	84	596	34
4	198	392	777	2,970	e380	1,400	2,360	920	1,170	77	667	33
5	201	374	719	2,820	343	1,380	1,900	791	3,540	72	544	30
6	194	1,040	683	2,960	2,520	2,660	1,560	665	3,990	81	832	27
7	174	2,670	611	2,150	4,730	2,820	1,530	555	2,810	78	564	26
8	156	1,870	547	1,540	3,020	2,180	1,590	464	1,710	69	345	46
9	145	1,340	502	1,270	2,120	1,740	1,390	396	1,100	59	237	999
10	134	1,030	512	953	1,660	1,380	1,080	340	749	57	173	1,380
11	126	794	1,470	616	1,330	1,110	864	303	518	74	134	912
12	118	2,290	1,790	663	1,080	924	788	307	509	74	131	613
13	111	7,340	1,420	655	924	753	4,140	278	430	69	190	420
14	234	3,990	1,230	553	848	625	7,250	295	326	58	165	251
15	1,280	2,450	1,010	542	775	561	4,910	248	273	50	129	171
16	1,230	1,650	799	461	681	730	2,920	278	303	44	165	132
17	870	1,270	940	397	610	2,030	1,880	338	483	41	239	132
18	680	980	1,160	660	562	1,810	1,330	307	533	51	186	1,860
19	526	e10,000	1,030	1,210	527	1,990	985	555	472	51	143	2,130
20	420	e11,000	885	1,060	599	1,880	767	602	337	44	108	1,290
21	354	6,750	690	771	1,200	1,900	711	451	255	41	97	832
22	321	3,290	640	719	1,580	1,740	645	323	210	127	100	556
23	283	1,760	831	589	1,410	1,380	564	242	207	e700	93	332
24	251	1,290	2,300	526	1,220	1,100	531	196	209	e440	82	246
25	223	1,090	2,770	438	1,080	895	462	600	190	e300	70	193
26	201	867	2,060	388	942	749	1,310	782	215	e240	59	159
27	259	733	1,570	405	825	643	3,150	1,690	225	567	53	137
28	565	786	1,230	346	711	571	2,400	4,540	176	498	46	540
29	695	1,480	996	314	638	505	1,700	2,950	139	385	42	2,070
30	789	1,380	1,120	e290	---	455	1,210	1,710	115	285	39	1,680
31	730	---	1,420	274	---	512	---	2,840	---	219	41	---
TOTAL	12,192	71,501	34,940	33,410	33,079	39,429	55,127	26,512	27,834	5,125	6,689	17,316
MEAN	393	2,383	1,127	1,078	1,141	1,272	1,838	855	928	165	216	577
MAX	1,280	11,000	2,770	3,520	4,730	2,820	7,250	4,540	3,990	700	832	2,130
MIN	111	374	502	274	240	455	462	196	115	41	39	26
CFSM	1.08	6.53	3.09	2.95	3.13	3.48	5.03	2.34	2.54	0.45	0.59	1.58
IN.	1.24	7.29	3.56	3.41	3.37	4.02	5.62	2.70	2.84	0.52	0.68	1.76

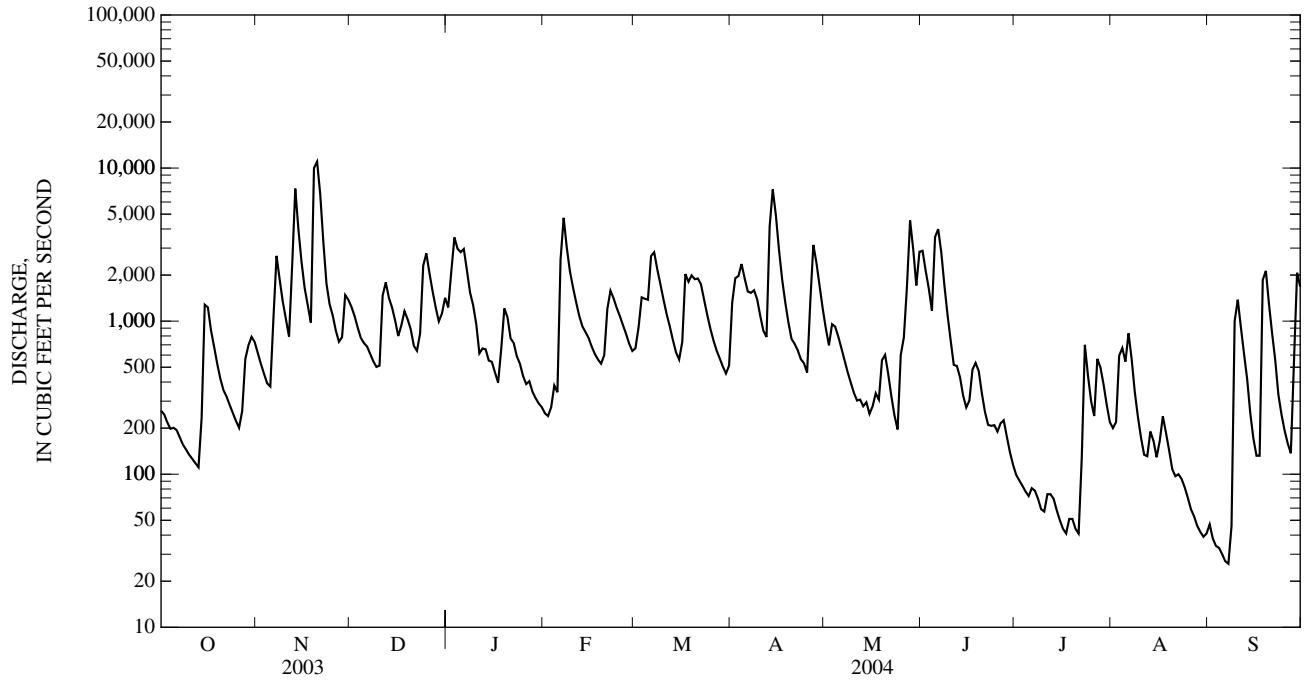
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2004, BY WATER YEAR (WY)

MEAN	291	630	912	1,042	1,235	1,425	1,111	945	513	331	294	192
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	599	368	271	53.7	32.2	12.9	13.1
(WY)	(1992)	(2002)	(2002)	(1977)	(2002)	(1988)	(1995)	(1976)	(1999)	(1991)	(1987)	(1983)

03190400 MEADOW RIVER NEAR MOUNT LOOKOUT, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1966 - 2004	
ANNUAL TOTAL	410,729		363,154			
ANNUAL MEAN	1,125		992		739	
HIGHEST ANNUAL MEAN					1,055	2003
LOWEST ANNUAL MEAN					410	1988
HIGHEST DAILY MEAN	(e)11,000	Nov 20	(e)11,000	Nov 20	14,200	Feb 26, 1972
LOWEST DAILY MEAN	109	Aug 28	26	Sep 7	4.1	(c)
ANNUAL SEVEN-DAY MINIMUM	128	Jul 29	33	Sep 2	5.7	Oct 8, 1991
MAXIMUM PEAK FLOW			(a)27,200	Nov 19	(a)27,200	Nov 19, 2003
MAXIMUM PEAK STAGE			(b)16.31	Nov 19	(b)16.31	Nov 19, 2003
INSTANTANEOUS LOW FLOW			25	Sep 7	3.0	Aug 22, 1987
ANNUAL RUNOFF (CFSM)	3.08		2.72		2.02	
ANNUAL RUNOFF (INCHES)	41.86		37.01		27.50	
10 PERCENT EXCEEDS	2,320		2,140		1,840	
50 PERCENT EXCEEDS	786		622		405	
90 PERCENT EXCEEDS	192		92		43	

a From rating curve extended above 15,000 ft^3/s on basis of slope-conveyance study.
b From floodmarks.
c Aug. 21, 22, 1987.
e Estimated.



REVISIONS.--The revised peak discharge for the 2001 water year is given below. This revised discharge supercedes the discharge published in WDR WV-01-1:

Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 29, 2001	2100	18,800	13.92

03191500 PETERS CREEK NEAR LOCKWOOD, WV

LOCATION.--Lat 38°15'45", long 81°01'24", NAD 27, Nicholas County, Hydrologic Unit 05050005, on left bank, at private bridge off of State Route 39, 0.9 mi downstream from Tate Run, 1.5 mi upstream from Line Creek and Lockwood, and at mile 5.2.

DRAINAGE AREA.--40.2 mi^2.

PERIOD OF RECORD.--October 1945 to September 1971, October 1979 to September 1982, October 1996 to September 1998. February 2003 to current year.

REVISED RECORDS.--WDR WV-80-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 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 1,059.52 ft above NGVD 29. Prior to November 2, 1945, nonrecording gage and November 2, 1945, to Aug. 2, 1955, water-stage recorder near present site at datum 1,072.19 ft above NGVD 29.

REMARKS.--Records fair except those for periods of estimated daily dischages (ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	2030	*5,030	*14.79	Apr 13	0930	1,940	10.63
Nov 19	1200	3,370	12.77	May 28	0500	1,770	10.33
Feb 6	1200	1,370	9.57	Jul 26	2300	1,530	9.89

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	47	131	88	e27	24	542	54	287	15	39	10
2	26	41	105	329	e25	25	558	53	260	14	26	8.7
3	23	37	89	301	135	23	408	52	154	27	21	8.5
4	26	34	78	205	158	25	311	41	144	21	17	8.4
5	27	41	80	301	178	24	192	39	440	15	40	7.9
6	23	84	119	302	1,010	299	137	34	262	13	29	7.8
7	22	118	114	191	528	217	110	30	142	11	20	7.8
8	21	95	99	136	254	142	91	27	87	11	17	58
9	20	70	84	113	168	103	72	24	59	10	14	83
10	20	56	88	85	133	78	57	22	49	9.8	12	44
11	20	51	209	74	107	64	53	21	52	15	12	26
12	20	1,540	178	66	91	55	88	21	50	11	23	20
13	19	864	131	64	79	48	846	20	37	11	27	17
14	97	236	166	58	70	44	550	31	32	9.1	19	19
15	166	139	169	62	62	42	330	22	29	8.4	15	14
16	78	101	149	53	53	71	196	27	30	7.3	15	13
17	51	79	212	52	48	81	136	22	26	7.5	12	119
18	40	63	212	110	44	77	101	33	27	9.3	11	476
19	34	1,360	161	146	42	106	83	92	30	7.1	11	135
20	29	468	121	118	41	102	72	91	23	6.5	9.4	66
21	27	226	95	94	41	140	64	50	20	6.3	28	42
22	26	148	91	87	36	122	54	42	30	48	23	30
23	24	110	148	63	33	97	58	32	42	105	15	26
24	22	116	309	57	34	79	52	26	27	99	12	22
25	21	107	240	e55	31	65	45	23	41	29	11	20
26	22	95	162	53	29	56	133	264	47	151	9.4	19
27	71	85	122	53	27	53	153	421	28	410	9.1	18
28	80	132	100	47	26	48	106	923	22	120	9.1	91
29	77	188	88	47	25	43	76	399	20	52	13	80
30	63	158	108	44	---	43	60	194	17	35	14	48
31	54	---	95	36	---	100	---	350	---	40	13	---
TOTAL	1,278	6,889	4,253	3,490	3,535	2,496	5,734	3,480	2,514	1,334.3	546.0	1,545.1
MEAN	41.2	230	137	113	122	80.5	191	112	83.8	43.0	17.6	51.5
MAX	166	1,540	309	329	1,010	299	846	923	440	410	40	476
MIN	19	34	78	36	25	23	45	20	17	6.3	9.1	7.8
CFSM	1.03	5.71	3.41	2.80	3.03	2.00	4.75	2.79	2.08	1.07	0.44	1.28
IN.	1.18	6.37	3.94	3.23	3.27	2.31	5.31	3.22	2.33	1.23	0.51	1.43

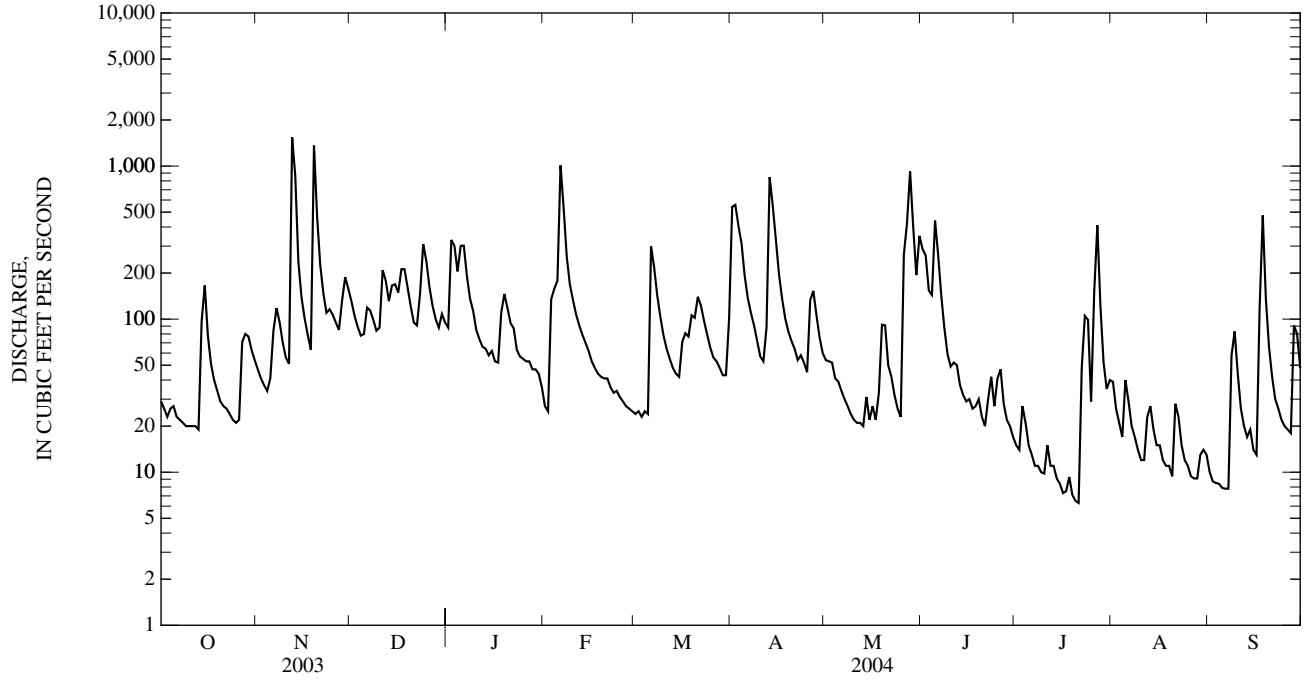
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2004, BY WATER YEAR (WY)

MEAN	17.9	48.1	78.9	96.1	115	133	97.0	73.4	46.7	33.5	30.9	17.3
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)

03191500 PETERS CREEK NEAR LOCKWOOD, WV—Continued

SUMMARY STATISTICS	FOR 2004 WATER YEAR		WATER YEARS 1946 - 2004	
ANNUAL TOTAL	37,094.4			
ANNUAL MEAN	101		64.7	
HIGHEST ANNUAL MEAN			108	1950
LOWEST ANNUAL MEAN			29.3	1966
HIGHEST DAILY MEAN	1,540	Nov 12	3,000	Aug 2, 1958
LOWEST DAILY MEAN	6.3	Jul 21	0.00	(a)
ANNUAL SEVEN-DAY MINIMUM	7.5	Jul 15	0.00	Sep 3, 1957
MAXIMUM PEAK FLOW	5,030	Nov 12	(b)8,340	Jun 16, 2003
MAXIMUM PEAK STAGE	14.79	Nov 12	18.35	Jun 16, 2003
INSTANTANEOUS LOW FLOW	5.7	(c)	0.00	(a)
ANNUAL RUNOFF (CFSM)	2.52		1.61	
ANNUAL RUNOFF (INCHES)	34.33		21.88	
10 PERCENT EXCEEDS	212		152	
50 PERCENT EXCEEDS	52		27	
90 PERCENT EXCEEDS	14		3.2	

a Sept. 6-9, 1957.
b From rating curve extended above 7,800 ft^3/s on basis of step-backwater analysis.
c July 21, 22.
e Estimated.



03192000 GAULEY RIVER ABOVE BELVA, WV

LOCATION.--Lat 38°14'00", long 81°10'52", NAD 27, Nicholas County, 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 mi^2.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1305.

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 mean sea level, adjustment of 1912.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since May 1965 by Summersville Lake.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1918 reached a stage of about 30 ft, discharge of about 112,000 ft^3/s.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 47,800 ft^3/s, Nov. 19, gage height, 19.23 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

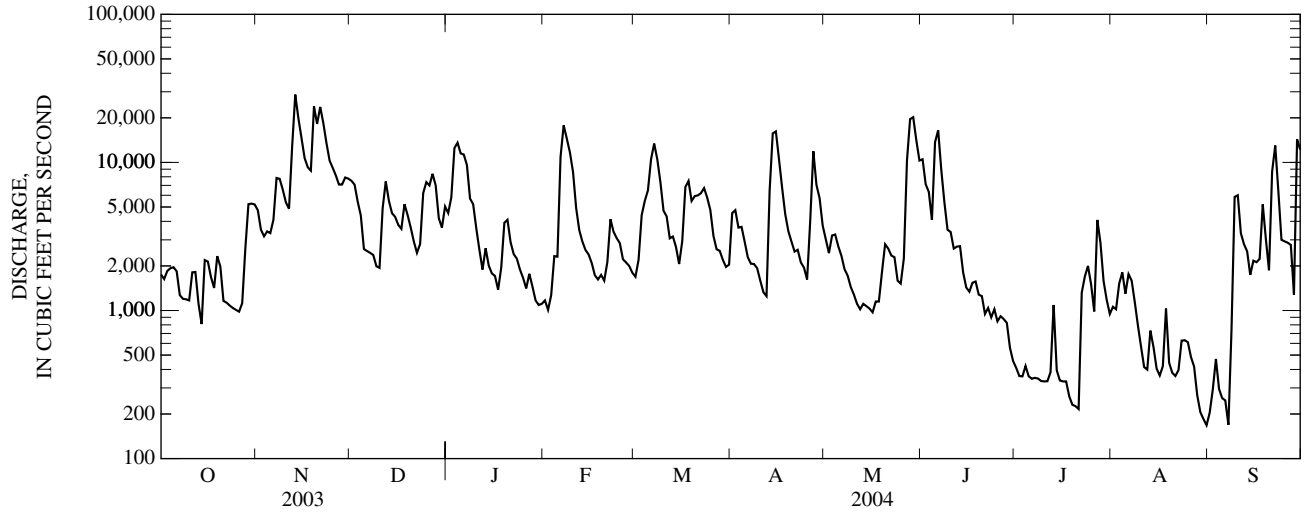
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,750	4,760	7,520	4,550	1,170	1,690	4,550	3,020	10,500	410	1,060	204
2	1,630	3,510	7,080	5,810	1,010	2,200	4,760	2,440	7,120	361	1,020	294
3	1,850	3,170	5,440	12,500	1,270	4,410	3,630	3,210	6,320	359	1,520	471
4	1,930	3,420	4,380	13,600	2,330	5,500	3,670	3,260	4,090	422	1,810	295
5	1,960	3,330	2,600	11,500	2,310	6,470	2,910	2,710	13,700	360	1,300	256
6	1,840	4,100	2,520	11,300	10,900	10,500	2,290	2,340	16,500	346	1,760	247
7	1,270	7,850	2,450	9,600	17,800	13,400	2,070	1,900	8,890	351	1,590	169
8	1,200	7,750	2,370	5,700	14,500	10,500	2,060	1,720	5,370	347	1,140	749
9	1,190	6,540	1,990	5,220	11,700	7,350	1,930	1,440	3,510	334	793	5,850
10	1,170	5,370	1,940	3,590	8,620	4,720	1,590	1,280	3,390	332	571	6,000
11	1,810	4,860	4,910	2,570	4,920	4,320	1,330	1,110	2,620	333	415	3,320
12	1,820	12,800	7,430	1,890	3,490	3,070	1,250	1,020	2,700	383	399	2,800
13	1,110	28,700	5,510	2,630	2,920	3,160	6,460	1,110	2,720	1,090	731	2,510
14	810	19,900	4,540	2,010	2,560	2,680	15,700	1,070	1,810	394	566	1,740
15	2,190	14,600	4,290	1,780	2,390	2,060	16,200	1,030	1,430	337	405	2,170
16	2,140	10,700	3,790	1,710	2,090	2,940	10,500	972	1,340	332	364	2,120
17	1,680	9,280	3,560	1,380	1,730	6,820	6,740	1,150	1,540	332	421	2,230
18	1,420	8,800	5,220	1,950	1,620	7,490	4,470	1,150	1,570	263	1,030	5,210
19	2,330	23,900	4,410	3,910	1,740	5,490	3,430	1,820	1,280	231	444	3,030
20	1,980	18,200	3,630	4,100	1,590	5,920	2,920	2,800	1,250	226	380	1,870
21	1,160	23,700	2,920	2,890	2,120	5,990	2,500	2,620	948	216	361	8,660
22	1,130	18,400	2,450	2,400	4,130	6,200	2,570	2,350	1,040	1,320	396	13,000
23	1,080	13,500	2,810	2,240	3,400	6,710	2,110	2,290	899	1,700	626	6,370
24	1,040	10,300	6,210	1,890	3,080	5,780	1,950	1,590	1,020	2,000	630	3,000
25	1,010	9,190	7,360	1,660	2,850	4,770	1,620	1,520	845	1,500	611	2,930
26	982	8,170	6,990	1,410	2,220	3,190	4,040	2,250	915	986	485	2,870
27	1,120	7,090	8,380	1,770	2,110	2,590	11,900	10,300	875	4,090	418	2,770
28	2,610	7,090	6,990	1,450	2,000	2,530	7,040	19,600	825	2,860	268	1,280
29	5,220	7,910	4,200	1,170	1,800	2,200	5,740	20,200	560	1,580	206	14,300
30	5,270	7,770	3,630	1,090	---	1,970	3,740	14,100	456	1,180	185	12,200
31	5,200	---	5,040	1,110	---	2,040	---	10,300	---	947	168	---
TOTAL	58,902	314,660	142,560	126,380	120,370	154,660	141,670	123,672	106,033	25,922	22,073	108,915
MEAN	1,900	10,490	4,599	4,077	4,151	4,989	4,722	3,989	3,534	836	712	3,630
MAX	5,270	28,700	8,380	13,600	17,800	13,400	16,200	20,200	16,500	4,090	1,810	14,300
MIN	810	3,170	1,940	1,090	1,010	1,690	1,250	972	456	216	168	169

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2004, BY WATER YEAR (WY)

MEAN	1,948	3,371	3,658	3,878	4,398	4,961	2,802	3,362	2,005	1,472	1,435	1,495
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	2,187	611	538	236	187	36.8	72.5
(WY)	(1966)	(1966)	(1966)	(1966)	(2002)	(2000)	(1986)	(1991)	(1991)	(1999)	(1965)	(1965)

03192000 GAULEY RIVER ABOVE BELVA, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1965 - 2004	
ANNUAL TOTAL	1,595,559		1,445,817			
ANNUAL MEAN	4,371		3,950		2,893	
HIGHEST ANNUAL MEAN					4,048	2003
LOWEST ANNUAL MEAN					1,452	1966
HIGHEST DAILY MEAN	28,700	Nov 13	28,700	Nov 13	32,000	Jul 29, 2001
LOWEST DAILY MEAN	371	Aug 29	168	Aug 31	11	Sep 10, 1965
ANNUAL SEVEN-DAY MINIMUM	447	Aug 24	249	Aug 27	17	Sep 4, 1965
MAXIMUM PEAK FLOW			47,800	Nov 19	47,800	Nov 19, 2003
MAXIMUM PEAK STAGE			19.23	Nov 19	19.23	Nov 19, 2003
INSTANTANEOUS LOW FLOW			147	Sep 7	9.6	Sep 11, 1965
10 PERCENT EXCEEDS	8,780		10,300		6,910	
50 PERCENT EXCEEDS	3,030		2,340		1,690	
90 PERCENT EXCEEDS	1,040		417		379	



STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1964, BY WATER YEAR (WY) [UNREGULATED]

	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)

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
INSTANTANEOUS PEAK FLOW	(*)105,000	Jul 5, 1932
INSTANTANEOUS PEAK STAGE	28.60	Jul 5, 1932
INSTANTANEOUS LOW FLOW	3.2	Oct 21, 1953
10 PERCENT EXCEEDS	6,280	
50 PERCENT EXCEEDS	1,390	
90 PERCENT EXCEEDS	129	

* From rating curve extended above 65,000 ft^3/s on basis of velocity-area studies and inflow and storage adjustment to record for Kanawha River at Kanawha Falls.

03193000 KANAWHA RIVER AT KANAWHA FALLS, WV

LOCATION.--Lat 38°08'17", long 81°12'52", NAD 27, Fayette County, 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 mi^2.

PERIOD OF RECORD.--March 1877 to current year. October 1916 to September 1918 and October 1927 to October 1928, published as "at Lock 2, Montgomery".

REVISED RECORDS.--WSP 923: 1878, 1886, 1897, 1899, 190l-3. WSP 1305: 1902(M), 1940.WSP 1335: 1931. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 621.20 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.--No estimated daily discharges. Records good. Flow regulated since 1939 by Claytor Lake, since 1949 by Bluestone Lake, and since 1965 by Summersville Lake.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 147,000 ft^3/s, Nov. 19, gage height, 22.06 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10,700	12,700	21,800	19,700	7,390	10,700	14,700	17,900	49,600	6,580	5,420	2,660
2	9,330	10,800	19,700	19,300	6,550	11,200	23,500	15,900	34,300	5,740	5,480	2,380
3	8,480	9,290	20,800	35,300	6,450	14,800	23,400	15,500	24,700	5,510	6,770	2,400
4	7,610	8,840	16,900	43,200	8,360	20,400	23,100	17,100	18,500	5,760	8,870	2,650
5	7,700	9,450	16,700	36,500	14,800	23,000	17,800	17,200	37,300	6,210	7,700	2,690
6	7,560	11,600	18,800	38,500	29,300	29,700	15,400	14,700	55,700	7,300	7,500	2,880
7	7,010	26,200	19,200	38,200	61,600	37,100	16,000	12,600	36,500	6,680	8,220	2,380
8	6,540	27,700	14,700	28,000	69,700	35,600	14,600	11,200	25,300	5,460	6,130	5,080
9	6,410	21,800	13,200	25,500	52,800	29,600	13,700	9,870	16,800	4,780	5,460	32,400
10	6,080	16,800	10,800	21,600	39,500	25,000	12,900	8,830	15,400	4,500	4,370	44,200
11	5,360	13,700	17,300	15,700	27,600	21,600	11,300	7,900	16,300	4,800	3,590	36,200
12	6,350	23,500	41,600	12,800	23,500	18,200	9,690	8,240	14,200	4,380	3,500	18,200
13	6,480	57,400	39,800	12,300	20,700	16,000	21,600	8,510	14,000	4,770	4,060	11,600
14	5,810	63,300	28,400	13,700	18,300	15,400	84,900	8,100	15,100	4,890	5,940	9,160
15	8,290	36,800	21,500	13,000	18,500	11,100	84,000	7,960	14,600	4,210	4,400	8,650
16	9,150	26,100	17,400	11,900	14,600	10,900	63,200	7,630	16,900	3,610	3,910	10,300
17	10,100	20,300	20,700	11,900	13,600	18,200	47,700	7,680	17,300	3,790	3,570	12,900
18	9,950	18,300	23,900	13,000	15,900	27,400	30,000	7,940	17,700	3,690	3,690	25,600
19	9,550	72,300	27,000	13,100	15,700	25,400	23,800	8,330	14,200	3,450	2,970	20,300
20	8,270	93,000	23,800	17,700	13,400	24,200	20,200	11,300	11,200	3,470	2,730	9,830
21	6,460	93,700	19,300	16,400	14,700	24,300	17,500	12,600	9,730	4,490	3,070	14,800
22	6,660	80,700	16,500	14,100	19,800	21,500	17,300	10,200	8,340	5,170	3,270	51,000
23	6,760	66,900	14,500	12,500	24,000	21,200	14,700	10,400	7,600	9,040	3,370	42,700
24	6,460	57,300	18,800	11,700	23,600	22,000	13,300	10,200	7,570	7,160	3,290	31,700
25	6,090	49,100	30,600	10,000	21,000	18,400	12,400	9,010	7,880	6,120	3,150	10,500
26	5,810	37,900	35,100	7,200	17,700	14,800	13,100	8,320	8,710	5,070	3,010	8,550
27	5,650	23,800	30,200	8,450	17,000	12,700	38,300	16,700	10,100	10,700	2,870	8,880
28	6,270	22,400	25,800	9,400	15,200	11,500	42,900	35,300	12,100	13,800	2,640	8,770
29	11,800	22,600	20,500	8,540	13,300	10,100	31,200	43,700	9,850	9,800	2,320	62,300
30	16,200	22,200	17,400	8,350	---	9,010	23,100	39,000	7,630	7,410	2,370	67,200
31	15,000	---	19,600	7,220	---	10,200	---	41,100	---	5,870	3,240	---
TOTAL	249,890	1,056,480	682,300	554,760	644,550	601,210	795,290	460,920	555,110	184,210	136,880	568,860
MEAN	8,061	35,220	22,010	17,900	22,230	19,390	26,510	14,870	18,500	5,942	4,415	18,960
MAX	16,200	93,700	41,600	43,200	69,700	37,100	84,900	43,700	55,700	13,800	8,870	67,200
MIN	5,360	8,840	10,800	7,200	6,450	9,010	9,690	7,630	7,570	3,450	2,320	2,380

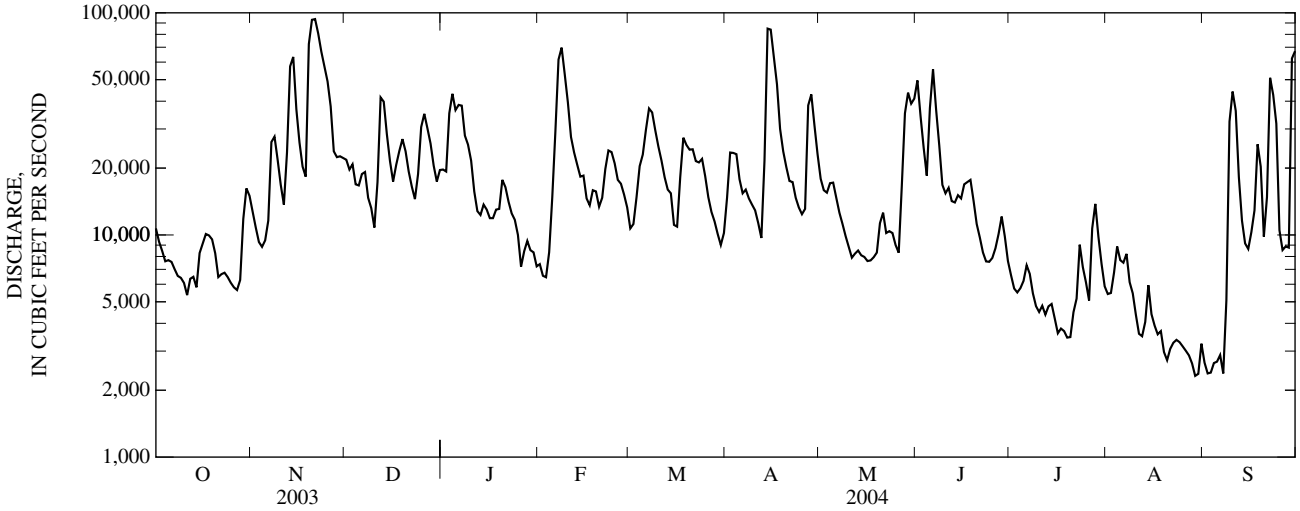
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2004, BY WATER YEAR (WY)

MEAN	5,792	9,028	12,830	15,980	20,160	23,470	18,010	14,660	9,366	6,396	5,894	5,001
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	7,583	5,065	4,051	2,450	2,167	1,945	1,510
(WY)	(1954)	(1954)	(1966)	(1940)	(2002)	(1988)	(1986)	(1941)	(1999)	(1966)	(1944)	(1953)

03193000 KANAWHA RIVER AT KANAWHA FALLS, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1939 - 2004	
ANNUAL TOTAL	7,766,390		6,490,460			
ANNUAL MEAN	21,280		17,730		12,180	
HIGHEST ANNUAL MEAN					19,960	2003
LOWEST ANNUAL MEAN					6,792	1988
HIGHEST DAILY MEAN	106,000	Feb 23	93,700	Nov 21	163,000	Aug 15, 1940
LOWEST DAILY MEAN	3,980	Jan 28	2,320	Aug 29	970	Sep 30, 1953
ANNUAL SEVEN-DAY MINIMUM	5,340	Jan 22	2,570	Aug 28	1,230	Sep 23, 1963
MAXIMUM PEAK FLOW			147,000	Nov 19	248,000	Aug 15, 1940
MAXIMUM PEAK STAGE			22.06	Nov 19	(a)29.60	Aug 15, 1940
INSTANTANEOUS LOW FLOW			2,060	Aug 30	(b)	(b)
10 PERCENT EXCEEDS	42,000		37,200		27,000	
50 PERCENT EXCEEDS	16,800		13,400		7,610	
90 PERCENT EXCEEDS	6,640		4,500		2,590	

a 31.60 ft gage height at current datum.
b Not determined.



STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1877 - 1938, BY WATER YEAR (WY) [UNREGULATED]

	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)

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
INSTANTANEOUS PEAK FLOW	(*)320,000	Sep 14, 1878
INSTANTANEOUS PEAK STAGE	(#)37.80	Sep 14, 1878
INSTANTANEOUS LOW FLOW	640	Aug 15, 1930
10 PERCENT EXCEEDS	27,900	
50 PERCENT EXCEEDS	8,330	
90 PERCENT EXCEEDS	2,550	

* From gage-height relationship and rating curve extended above 150,000 ft^3/s.
\# Site then in use, 39.80 ft gage height at current datum.

03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV

LOCATION.--Lat 38°35'50", long 80°29'26", NAD 27, Webster County, 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 mi^2.

PERIOD OF RECORD.--October 1929 to September 1959 (estimated annual maximum discharge only), October 1959 to September 1983, October 1985 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is approximately 1,020.1 ft above NGVD 29, from barometric leveling.

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

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	0100	17,700	12.29	Apr 13	2130	9,730	9.81
Nov 19	1730	*23,000	*13.76	May 28	0830	12,500	10.76
Feb 6	2030	10,100	9.96	Sep 28	2000	9,160	9.60

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230	482	1,080	964	276	472	1,030	572	1,070	91	124	87
2	250	404	910	1,800	314	939	1,490	492	953	80	106	63
3	217	347	746	3,290	369	1,900	1,470	871	741	73	108	48
4	208	301	626	2,610	652	1,950	1,750	754	576	75	94	40
5	320	288	562	2,440	505	2,080	1,400	595	1,580	67	121	34
6	320	815	579	2,490	5,220	4,110	1,160	503	1,310	64	126	29
7	275	1,080	511	1,620	6,050	3,290	1,250	420	867	72	102	37
8	235	919	457	1,140	2,620	2,410	1,860	356	593	65	88	49
9	202	689	430	886	1,580	1,690	1,750	310	440	56	66	607
10	177	531	450	662	1,130	1,280	1,240	268	394	55	53	607
11	158	439	2,340	466	846	1,060	940	237	385	81	46	334
12	143	3,780	1,830	498	677	958	820	245	998	109	47	215
13	129	8,570	1,230	434	582	815	4,970	245	700	164	67	148
14	136	2,570	1,080	370	517	676	5,840	238	494	202	97	112
15	1,610	1,500	1,080	358	476	773	2,980	227	417	132	80	87
16	1,500	1,010	800	292	413	1,000	1,840	226	363	96	69	72
17	913	748	984	263	380	1,930	1,260	199	372	78	64	75
18	632	582	1,150	465	361	1,440	898	258	349	70	98	2,840
19	479	7,600	917	963	333	2,070	687	892	324	62	69	1,390
20	377	5,230	742	728	355	1,830	558	1,070	270	57	57	676
21	314	2,300	586	541	963	2,890	492	833	225	53	62	396
22	275	1,430	525	505	1,170	2,190	437	1,570	196	48	192	269
23	249	990	786	430	847	1,450	386	1,090	223	44	151	200
24	215	775	3,230	385	699	1,110	395	700	220	43	102	158
25	186	740	2,740	345	615	895	358	513	182	44	70	128
26	169	606	1,620	354	532	756	1,770	515	183	47	53	107
27	212	517	1,110	371	486	671	2,510	1,660	179	358	43	93
28	921	591	855	352	435	659	1,510	7,160	151	291	37	1,920
29	713	1,640	738	344	421	560	1,010	3,060	124	176	34	2,750
30	709	1,280	1,010	316	---	499	725	1,600	105	135	79	1,180
31	586	---	1,210	273	---	550	---	1,190	---	116	109	---
TOTAL	13,060	48,754	32,914	26,955	29,824	44,903	44,786	28,869	14,984	3,104	2,614	14,751
MEAN	421	1,625	1,062	870	1,028	1,448	1,493	931	499	100	84.3	492
MAX	1,610	8,570	3,230	3,290	6,050	4,110	5,840	7,160	1,580	358	192	2,840
MIN	129	288	430	263	276	472	358	199	105	43	34	29
CFSM	1.58	6.11	3.99	3.27	3.87	5.45	5.61	3.50	1.88	0.38	0.32	1.85
IN.	1.83	6.82	4.60	3.77	4.17	6.28	6.26	4.04	2.10	0.43	0.37	2.06

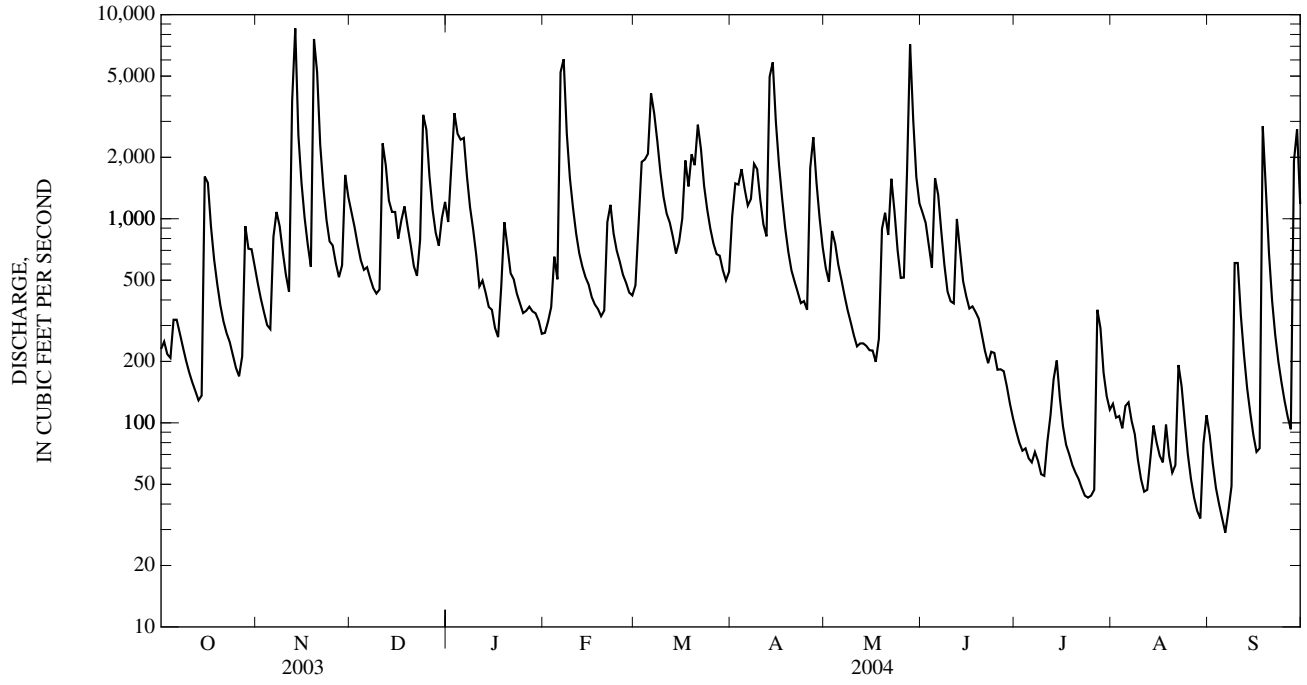
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2004, BY WATER YEAR (WY)

MEAN	330	684	883	893	1,039	1,336	1,049	800	479	359	305	238
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	731	312	137	48.9	31.6	23.3	16.4
(WY)	(1964)	(2002)	(1966)	(1977)	(1978)	(2000)	(1963)	(1964)	(1965)	(1999)	(1993)	(1999)

03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1960 - 2004	
ANNUAL TOTAL	347,928		305,518			
ANNUAL MEAN	953		835		697	
HIGHEST ANNUAL MEAN					997	1996
LOWEST ANNUAL MEAN					415	1999
HIGHEST DAILY MEAN	8,570	Nov 13	8,570	Nov 13	15,200	Apr 26, 1989
LOWEST DAILY MEAN	82	Jul 28	29	Sep 6	4.9	Sep 12, 1995
ANNUAL SEVEN-DAY MINIMUM	112	Aug 1	43	Sep 2	5.2	Sep 9, 1995
MAXIMUM PEAK FLOW			23,000	Nov 19	(a)38,000	Nov 4, 1985
MAXIMUM PEAK STAGE			13.76	Nov 19	(b)17.20	Nov 4, 1985
INSTANTANEOUS LOW FLOW			27	Sep 6	4.8	(c)
ANNUAL RUNOFF (CFSM)	3.58		3.14		2.62	
ANNUAL RUNOFF (INCHES)	48.66		42.73		35.58	
10 PERCENT EXCEEDS	2,120		1,850		1,630	
50 PERCENT EXCEEDS	591		496		387	
90 PERCENT EXCEEDS	170		71		59	

a From rating curve extended above 24,000 ft^3/s.
b From floodmarks.
c Sept. 11-13, 1995.



03197000 ELK RIVER AT QUEEN SHOALS, WV

LOCATION.--Lat 38°28'15", long 81°17'03", NAD 27, Kanawha County, 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. Records include flow of Queen Shoals Creek.

DRAINAGE AREA.--1,145 mi^2, includes that of Queen Shoals Creek.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only October, November 1928, published in WSP 1305.

REVISED RECORDS.--WSP 783: Drainage area. WSP 1335: 1929-32, 1935(M), 1936, 1939, 1943(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 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.--Records good except those above 10,000 ft^3/s, which are fair. Flow regulated since April 1959 by Sutton Lake.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 39,200 ft^3/s, Nov. 19, gage height, 23.34 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,110	2,380	5,970	3,200	1,700	1,010	5,990	1,900	7,370	458	859	182
2	817	1,930	4,190	4,790	1,510	923	10,500	1,740	6,740	355	876	169
3	793	1,540	3,100	6,600	2,310	909	6,460	1,700	4,150	262	759	168
4	948	1,360	2,550	6,610	4,480	1,290	6,780	1,690	2,840	244	676	153
5	1,160	1,730	2,190	8,080	4,390	2,360	6,690	1,770	3,970	222	580	146
6	1,250	4,520	2,230	8,900	12,100	8,360	3,670	1,520	7,610	221	547	140
7	1,400	4,330	2,740	7,190	13,600	10,400	2,060	1,330	5,160	208	516	136
8	1,350	4,390	2,550	5,990	10,700	8,270	1,560	1,120	2,910	203	474	253
9	1,250	3,910	2,220	4,460	8,650	7,370	1,370	910	2,010	205	444	2,120
10	1,140	3,160	2,030	3,430	7,130	5,250	1,810	842	1,490	214	367	1,670
11	915	2,240	2,550	2,430	5,910	3,570	2,360	703	1,490	314	299	740
12	647	7,190	4,420	1,820	4,900	2,890	2,150	762	2,520	679	249	518
13	592	23,100	4,520	1,540	4,290	2,420	10,400	773	2,100	387	264	526
14	438	9,510	4,500	1,570	3,040	2,210	14,900	955	1,870	302	272	507
15	889	8,870	6,270	1,530	2,570	1,810	10,600	1,410	1,340	396	255	436
16	2,330	7,110	5,710	1,460	1,960	1,900	9,670	1,370	1,380	557	227	373
17	3,360	5,470	4,680	1,370	1,440	2,460	7,880	1,170	2,150	369	214	554
18	3,380	5,290	4,210	1,600	1,380	3,420	6,600	619	1,570	262	204	11,500
19	2,730	18,200	4,160	2,820	1,280	3,770	4,860	798	998	248	371	5,780
20	1,930	19,900	3,920	2,780	1,170	4,290	3,190	1,910	831	221	234	1,860
21	1,540	8,310	2,950	3,070	1,130	5,420	2,460	2,540	710	208	270	950
22	1,350	9,020	2,380	2,910	1,150	7,160	2,030	2,320	652	283	388	1,420
23	1,000	7,990	2,630	2,430	1,620	5,410	1,650	3,120	708	694	344	2,880
24	1,020	6,780	4,070	1,970	1,700	3,370	1,480	2,380	814	322	290	2,550
25	952	6,110	6,320	1,570	1,690	2,560	1,350	1,550	1,170	669	245	1,850
26	744	5,310	5,410	1,390	1,430	2,680	1,650	1,440	1,090	380	269	826
27	829	4,160	4,730	1,720	1,020	2,300	4,300	3,680	633	604	252	629
28	2,260	4,330	4,250	2,670	1,060	1,920	5,300	13,300	549	2,670	241	622
29	2,680	6,310	3,760	2,660	1,040	1,890	3,320	11,400	510	2,130	234	1,210
30	2,730	6,540	3,730	2,470	---	1,840	2,180	9,320	482	1,580	208	3,690
31	2,510	---	3,480	2,040	---	1,950	---	8,110	---	1,030	238	---
TOTAL	46,044	200,990	118,420	103,070	106,350	111,382	145,220	84,152	67,817	16,897	11,666	44,558
MEAN	1,485	6,700	3,820	3,325	3,667	3,593	4,841	2,715	2,261	545	376	1,485
MAX	3,380	23,100	6,320	8,900	13,600	10,400	14,900	13,300	7,610	2,670	876	11,500
MIN	438	1,360	2,030	1,370	1,020	909	1,350	619	482	203	204	136

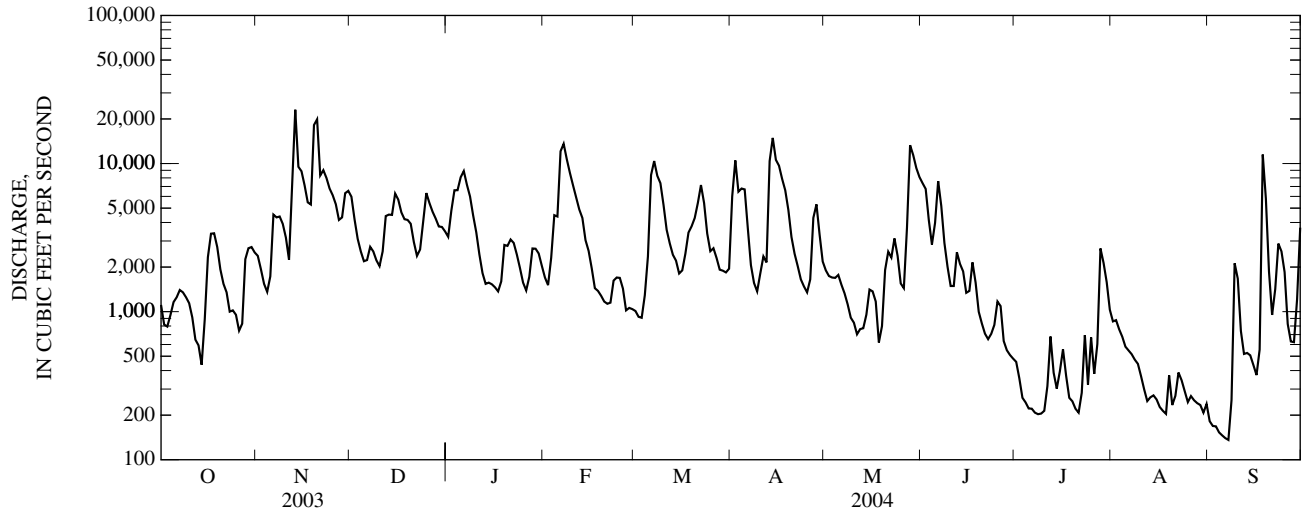
03197000 ELK RIVER AT QUEEN SHOALS, WV—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2004, BY WATER YEAR (WY)

MEAN	1,004	2,068	2,826	2,998	3,546	4,148	2,850	2,626	1,399	886	921	694
MAX	5,017	6,700	7,402	6,743	7,296	9,051	5,649	6,601	4,745	2,735	3,487	3,072
(WY)	(1977)	(2004)	(1973)	(1994)	(1994)	(1967)	(1987)	(1989)	(1981)	(1992)	(1972)	(1971)
MIN	142	352	244	594	955	1,633	562	409	132	120	83.7	111
(WY)	(1959)	(2002)	(1966)	(1977)	(2002)	(1987)	(1963)	(1964)	(1965)	(1964)	(1965)	(1959)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1959 - 2004	
ANNUAL TOTAL	1,185,244		1,056,566			
ANNUAL MEAN	3,247		2,887		2,158	
HIGHEST ANNUAL MEAN					3,249	1994
LOWEST ANNUAL MEAN					1,063	1966
HIGHEST DAILY MEAN	27,000	Feb 17	23,100	Nov 13	35,300	Mar 15, 1967
LOWEST DAILY MEAN	265	Aug 28	136	Sep 7	9.0	Sep 27, 1959
ANNUAL SEVEN-DAY MINIMUM	362	Aug 25	156	Sep 1	12	Sep 24, 1959
MAXIMUM PEAK FLOW			39,200	Nov 19	(a)47,000	Mar 2, 1997
MAXIMUM PEAK STAGE			23.34	Nov 19	25.36	Mar 2, 1997
INSTANTANEOUS LOW FLOW			135	Sep 7	(b)	(b)
10 PERCENT EXCEEDS	6,510		6,880		5,620	
50 PERCENT EXCEEDS	2,460		1,860		1,140	
90 PERCENT EXCEEDS	587		280		225	

a From rating curve extended above 40,000 ft^3/s.
b Not determined



STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1958, BY WATER YEAR (WY) [UNREGULATED]

	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)

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	.30	(*)
ANNUAL SEVEN-DAY MINIMUM	.86	Oct 30, 1953
INSTANTANEOUS PEAK FLOW	(#)72,000	Jul 5, 1932
INSTANTANEOUS PEAK STAGE	29.20	Jul 5, 1932
INSTANTANEOUS LOW FLOW	.30	(&)
10 PERCENT EXCEEDS	4,650	
50 PERCENT EXCEEDS	955	
90 PERCENT EXCEEDS	90	

* Nov. 3, 4, 1953.
\# From rating curve extended above 40,000 ft^3/s.
& Nov. 4, 5, 1953.

03197000 ELK RIVER AT QUEEN SHOALS, WV—Continued

REVISIONS.--The maximum discharges for some water years have been revised, as shown in the following table. They supercede figures published in the reports from 1981-2003.

Date	Discharge (ft^3/s)	Gage height (ft)	Date	Discharge (ft^3/s)	Gage height (ft)
05-29-81	12,400	11.69	03-05-93	13,900	12.53
01-23-82	9,340	10.18	05-08-94	29,800	19.85
04-25-83	16,000	13.61	05-19-95	17,100	14.21
03-29-84	17,700	14.50	07-31-96	29,300	19.64
05-24-85	15,500	13.35	03-02-97	45,100	25.36
11-29-85	21,700	16.40	06-29-98	15,400	13.30
01-20-87	14,100	12.63	01-24-99	9,650	10.34
05-07-88	8,360	9.71	02-19-00	21,900	16.47
03-07-89	20,100	15.67	05-19-01	20,600	15.90
06-10-90	20,800	15.99	04-28-02	22,300	16.68
12-31-90	17,800	14.55	02-17-03	33,000	21.09
12-03-91	33,400	21.22			

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03197910 UNNAMED TRIBUTARY TO ELK TWOMILE CREEK NEAR CHARLESTON, WV
(Detention Reservoir)

LOCATION.-- Lat 38°21'39.2", long 81°30'46.3", NAD 83, Kanawha County, Hydrologic Unit 05050007.

DAM NAME.-- Elk Twomile #14.

SURFACE AREA.--3.4 acres.

DRAINAGE AREA.-- 0.65 mi^2.

PERIOD OF RECORD.--May 2004 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 831.67 ft above NGVD 29.

REMARKS.-- Normal Pool = 40.13 ft (Normal Storage=39.8 acre-ft)

Top of Riser = 50.00 ft

Emergency Spillway = 57.73 ft

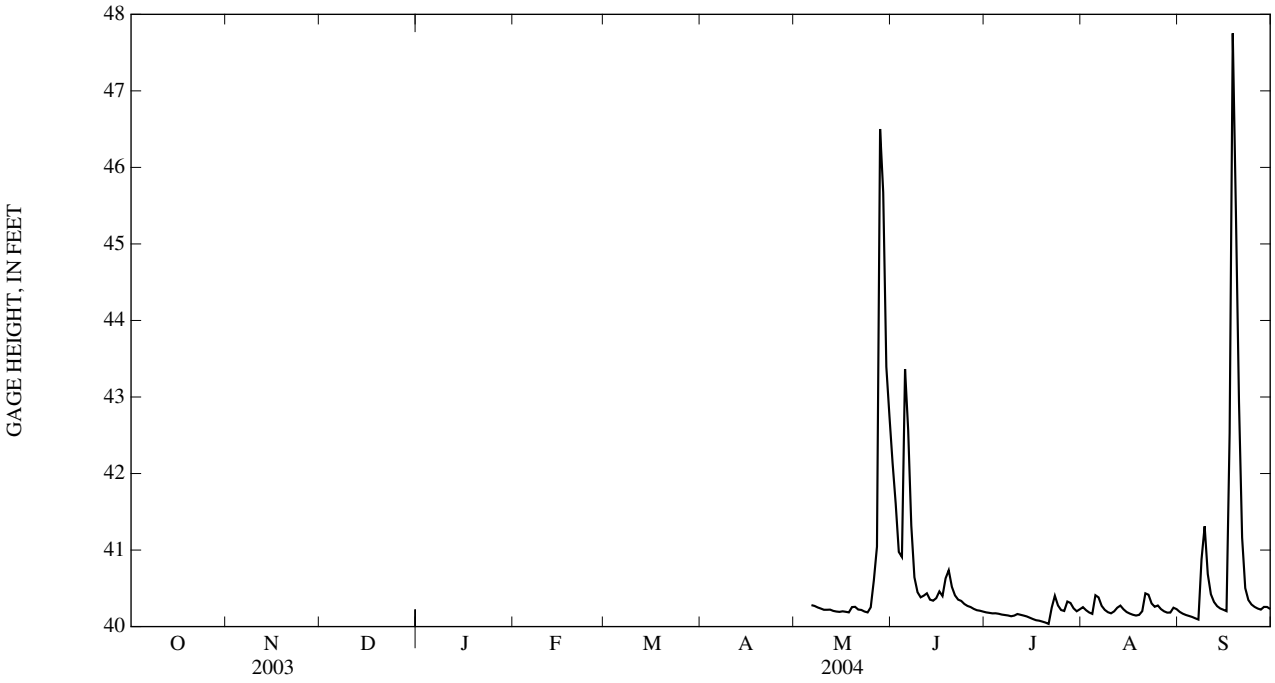
Top of Dam = 66.03 ft

EXTREMES FOR MAY 2004 to SEPTEMBER 2004.--Maximum gage height, 48.26 ft, Sept. 18; minimum gage height, 40.02 ft, July 22.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	42.14	40.19	40.25	40.19
2	---	---	---	---	---	---	---	---	41.61	40.18	40.21	40.17
3	---	---	---	---	---	---	---	---	40.98	40.17	40.18	40.15
4	---	---	---	---	---	---	---	---	40.91	40.17	40.17	40.14
5	---	---	---	---	---	---	---	---	43.37	40.17	40.41	40.13
6	---	---	---	---	---	---	---	40.28	42.57	40.16	40.38	40.11
7	---	---	---	---	---	---	---	40.27	41.32	40.15	40.27	40.09
8	---	---	---	---	---	---	---	40.25	40.64	40.15	40.22	40.88
9	---	---	---	---	---	---	---	40.24	40.45	40.14	40.19	41.31
10	---	---	---	---	---	---	---	40.22	40.38	40.14	40.17	40.69
11	---	---	---	---	---	---	---	40.22	40.40	40.16	40.20	40.42
12	---	---	---	---	---	---	---	40.22	40.43	40.15	40.25	40.32
13	---	---	---	---	---	---	---	40.21	40.35	40.14	40.27	40.27
14	---	---	---	---	---	---	---	40.20	40.34	40.13	40.23	40.24
15	---	---	---	---	---	---	---	40.19	40.37	40.12	40.19	40.22
16	---	---	---	---	---	---	---	40.20	40.46	40.10	40.17	40.20
17	---	---	---	---	---	---	---	40.19	40.40	40.08	40.15	42.53
18	---	---	---	---	---	---	---	40.19	40.63	40.08	40.14	47.75
19	---	---	---	---	---	---	---	40.25	40.74	40.07	40.15	45.44
20	---	---	---	---	---	---	---	40.26	40.52	40.05	40.20	42.93
21	---	---	---	---	---	---	---	40.22	40.41	40.04	40.43	41.16
22	---	---	---	---	---	---	---	40.22	40.35	40.25	40.42	40.50
23	---	---	---	---	---	---	---	40.20	40.34	40.40	40.30	40.35
24	---	---	---	---	---	---	---	40.19	40.30	40.28	40.26	40.29
25	---	---	---	---	---	---	---	40.25	40.27	40.22	40.28	40.26
26	---	---	---	---	---	---	---	40.61	40.26	40.20	40.23	40.24
27	---	---	---	---	---	---	---	41.04	40.23	40.33	40.20	40.22
28	---	---	---	---	---	---	---	46.50	40.21	40.31	40.18	40.26
29	---	---	---	---	---	---	---	45.67	40.21	40.24	40.18	40.26
30	---	---	---	---	---	---	---	43.39	40.20	40.20	40.25	40.23
31	---	---	---	---	---	---	---	42.75	---	40.23	40.23	---
MEAN	---	---	---	---	---	---	---	---	40.73	40.17	40.24	40.93
MAX	---	---	---	---	---	---	---	---	43.37	40.40	40.43	47.75
MIN	---	---	---	---	---	---	---	---	40.20	40.04	40.14	40.09

03197910 UNNAMED TRIBUTARY TO ELK TWOMILE CREEK NEAR CHARLESTON, WV—Continued



03198000 KANAWHA RIVER AT CHARLESTON, WV

LOCATION.--Lat 38°22'17", long 81°42'08", NAD 27, Kanawha County, 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.

DRAINAGE AREA.--10,448 mi^2.

PERIOD OF RECORD.--June 1939 to current year. 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 548.00 ft above mean sea level (levels by U.S. Army Corps of Engineers). Auxiliary water-stage recorder 2.3 mi upstream from base gage at datum 547.00 ft, U.S. Army Corps of Engineers datum. Prior to Oct. 1, 1955, auxiliary gages at different sites and datum.

REMARKS.--Records good above 30,000 ft^3/s, fair 10,000 to 30,000 ft^3/s, and poor less than 10,000 ft^3/s. The rating lacks sensitivity at flows less than 10,000 ft^3/s, and records for flows less than 10,000 ft^3/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 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.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 156,000 ft^3/s, Nov. 20, gage height, 37.65 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11,300	14,300	33,300	25,800	10,100	12,700	33,000	18,600	62,400	e7,700	e7,110	e3,210
2	13,000	11,300	28,000	32,400	10,300	14,900	54,900	18,200	45,400	e6,640	e7,100	e2,840
3	e9,920	e11,600	28,000	49,600	14,500	17,500	39,700	17,500	29,000	e6,170	e8,190	e2,840
4	e9,340	10,300	21,300	54,200	18,200	22,500	35,400	18,100	21,600	e6,380	10,600	e3,010
5	e9,660	15,400	20,500	51,600	23,400	26,700	28,700	19,400	40,600	e6,620	e8,910	e3,050
6	e9,570	19,100	23,400	53,800	53,200	49,100	22,700	16,800	64,300	e7,430	e8,640	e3,190
7	e9,110	31,000	25,800	50,900	89,100	55,900	21,000	14,100	45,400	e6,930	e9,150	e2,760
8	e8,520	34,000	20,000	37,100	88,300	49,700	17,000	12,800	27,600	e5,920	e7,200	e6,070
9	e8,270	28,000	18,100	32,900	66,400	39,800	16,800	e11,700	18,400	e5,270	e6,350	30,400
10	e7,820	22,400	14,800	27,800	51,500	32,400	16,000	e10,600	19,000	e5,050	e5,220	45,900
11	e6,880	17,200	22,500	19,300	37,200	27,200	15,100	e9,440	18,300	e5,630	e4,310	37,500
12	e7,390	38,000	47,100	17,000	31,000	21,900	15,400	e9,630	18,800	e5,780	e4,100	18,700
13	e7,500	101,000	48,100	15,800	28,500	19,900	40,600	10,700	16,400	e5,640	e4,780	e12,200
14	e6,670	82,800	37,300	18,100	23,300	19,300	109,000	e9,870	17,700	e5,530	e6,380	e9,950
15	12,700	53,500	32,400	17,500	23,800	12,600	104,000	10,300	16,600	e5,120	e5,090	e9,250
16	13,100	38,800	27,100	13,300	18,900	15,600	78,400	e9,850	20,200	e4,730	e4,440	11,300
17	14,500	30,300	30,100	15,000	17,700	24,300	59,300	e9,700	19,700	e4,580	e4,090	22,000
18	15,000	25,900	31,800	18,500	20,100	32,800	38,400	e9,020	19,200	e4,330	e4,170	44,900
19	14,800	66,400	34,900	20,000	18,800	31,000	29,400	10,300	15,100	e4,100	e3,830	35,500
20	e10,800	137,000	31,300	24,800	16,000	30,600	23,800	16,200	12,300	e4,030	e3,330	17,000
21	e8,660	107,000	25,200	21,100	19,200	34,000	19,400	16,600	e11,300	e4,830	e3,760	14,100
22	10,400	95,900	21,900	19,100	23,500	31,300	20,000	14,900	e9,810	e5,850	e4,240	47,100
23	e8,350	78,200	19,900	17,100	26,800	29,200	16,000	15,900	e9,340	13,900	e4,170	45,400
24	e8,080	65,300	27,400	18,000	26,600	27,800	15,100	13,200	10,100	e8,090	e3,980	36,400
25	e7,610	57,000	42,600	15,300	24,000	21,400	15,100	11,600	e10,300	e7,490	e3,750	12,100
26	e7,130	47,200	46,100	10,600	21,000	19,700	17,200	10,600	11,700	e6,210	e3,670	e9,770
27	e7,330	30,300	37,900	12,600	20,400	17,700	42,700	23,500	12,200	15,600	e3,460	e9,740
28	11,700	30,100	32,300	16,000	16,900	15,700	51,100	64,200	13,700	16,200	e3,220	10,700
29	16,600	35,000	26,700	16,100	14,500	12,700	34,500	62,800	e11,100	e13,400	e2,930	47,300
30	20,600	33,100	24,100	14,900	---	12,700	24,200	53,300	e8,820	e9,840	e2,990	70,300
31	16,900	---	26,200	13,300	---	15,900	---	49,600	---	e7,650	e3,860	---
TOTAL	329,210	1,367,400	906,100	769,500	853,200	794,500	1,053,900	599,010	656,370	222,640	163,020	624,480
MEAN	10,620	45,580	29,230	24,820	29,420	25,630	35,130	19,320	21,880	7,182	5,259	20,820
MAX	20,600	137,000	48,100	54,200	89,100	55,900	109,000	64,200	64,300	16,200	10,600	70,300
MIN	6,670	10,300	14,800	10,600	10,100	12,600	15,100	9,020	8,820	4,030	2,930	2,760

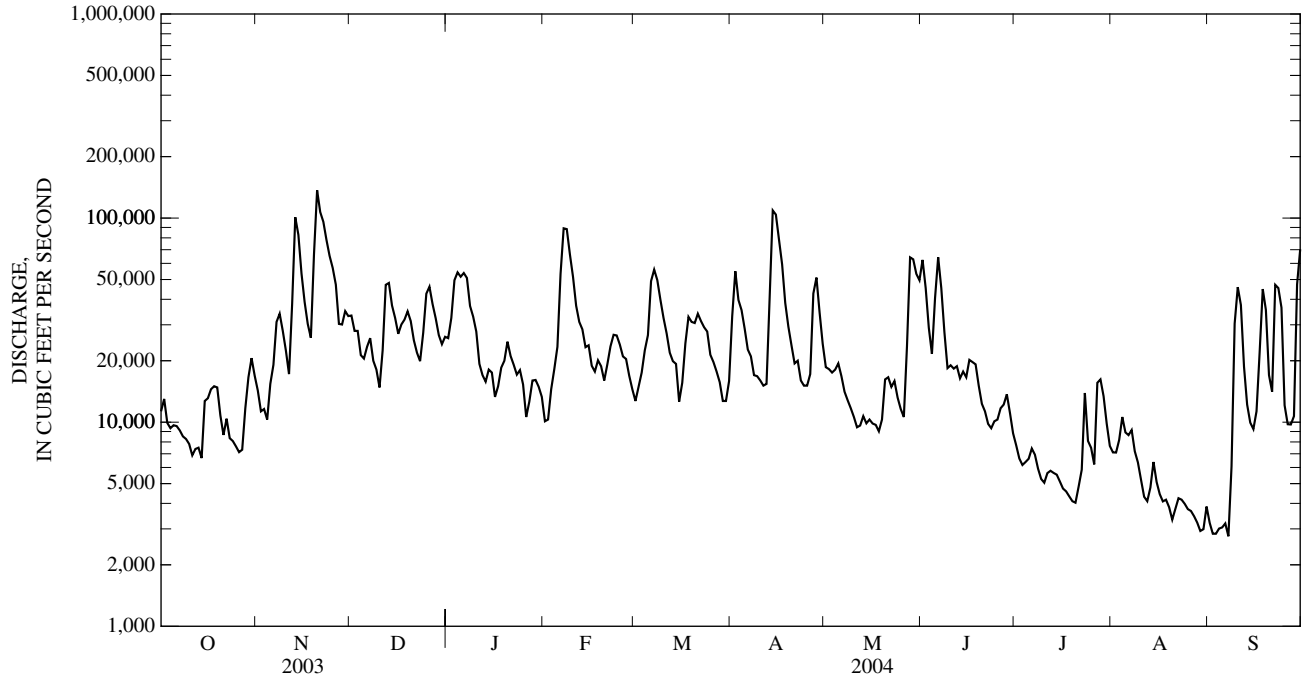
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2004, BY WATER YEAR (WY)

MEAN	6,887	11,450	16,750	20,770	25,470	29,960	22,550	18,280	11,040	7,690	6,884	5,758
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)

03198000 KANAWHA RIVER AT CHARLESTON, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1941 - 2004	
ANNUAL TOTAL	9,058,470		8,339,330			
ANNUAL MEAN	24,820		22,790		15,240	
HIGHEST ANNUAL MEAN					22,790	2004
LOWEST ANNUAL MEAN					8,649	1988
HIGHEST DAILY MEAN	137,000	Nov 20	137,000	Nov 20	160,000	Mar 7, 1967
LOWEST DAILY MEAN	(e)5,220	Jan 28	(e)2,760	Sep 7	1,100	Jul 30, 1966
ANNUAL SEVEN-DAY MINIMUM	6,540	Jan 22	2,990	Sep 1	1,250	Sep 26, 1953
MAXIMUM PEAK FLOW			156,000	Nov 20	216,000	Aug 15, 1940
MAXIMUM PEAK STAGE			37.65	Nov 20	39.72	Mar 7, 1955
INSTANTANEOUS LOW FLOW			(a)	(a)	1,030	(b)
10 PERCENT EXCEEDS	48,100		48,400		33,800	
50 PERCENT EXCEEDS	19,200		17,000		9,540	
90 PERCENT EXCEEDS	8,280		5,260		3,100	

a Not determined.
b Minimum discharge less than 1,030 ft^3/s during Oct. 1-5, 1953.
e Estimated.



03198350 CLEAR FORK AT WHITESVILLE, WV

LOCATION.--Lat 37°57'58", long 81°31'28", NAD 27, Raleigh County, Hydrologic Unit 05050004, 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 mi^2.

PERIOD OF RECORD.--October 1996 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 818.98 ft above NGVD 29. Prior to July 24, 2002, gage 250 ft upstream at same datum.

REMARKS.--Records good except those for May to July, which are fair, and for periods of estimated discharges (ice effect, no gage-height record), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	2230	2,700	18.35	Apr 13	1600	1,760	(a)16.45
Nov 19	1230	*5,370	*21.96	May 31	0900	2,440	17.89
Feb 6	1630	1,960	16.92	Sep 17	2100	1,370	15.56
Apr 2	0400	1,270	15.33				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	45	162	132	e46	52	611	87	481	23	e32	8.9
2	32	41	141	395	e43	52	1,000	91	244	21	e29	8.6
3	28	37	125	449	152	50	580	89	162	26	e45	8.5
4	30	34	117	273	200	50	401	76	179	26	42	8.3
5	29	38	120	301	198	49	299	70	204	25	37	8.0
6	26	121	142	346	1,310	317	239	62	166	20	35	7.6
7	24	224	145	251	924	279	211	55	125	18	27	7.6
8	23	141	134	195	388	212	186	50	93	19	22	142
9	22	98	121	171	256	173	165	44	93	15	19	165
10	19	77	119	142	212	143	151	40	76	15	17	92
11	17	68	170	121	183	124	139	39	72	31	15	49
12	17	763	174	114	161	112	e165	58	74	27	24	32
13	16	1,050	156	109	148	98	e1,020	52	105	20	35	29
14	51	297	157	102	136	90	941	48	69	14	25	36
15	185	184	144	102	125	85	516	41	67	13	20	32
16	94	135	138	90	112	132	324	46	302	12	23	24
17	63	106	196	86	101	182	244	42	143	12	18	413
18	49	90	224	153	94	166	204	41	96	13	16	686
19	40	2,460	190	245	88	191	176	82	79	10	14	207
20	35	981	157	192	86	185	159	130	65	10	13	115
21	31	368	131	154	85	187	145	102	54	14	14	76
22	28	238	125	132	78	167	129	71	48	50	15	56
23	26	183	157	110	72	146	121	42	53	91	12	43
24	24	166	276	100	71	131	110	44	48	62	11	36
25	22	153	302	89	67	117	100	78	44	35	11	31
26	22	138	222	84	63	107	150	158	70	38	10	28
27	44	124	181	84	60	99	167	382	55	85	9.8	25
28	58	144	155	76	56	92	134	737	47	79	9.6	86
29	59	188	142	68	53	86	105	474	41	45	13	111
30	54	179	159	65	---	84	90	321	31	31	10	71
31	50	---	140	49	---	157	---	1,430	---	e26	9.8	---
TOTAL	1,254	8,871	5,022	4,980	5,568	4,115	8,982	5,082	3,386	926	633.2	2,642.5
MEAN	40.5	296	162	161	192	133	299	164	113	29.9	20.4	88.1
MAX	185	2,460	302	449	1,310	317	1,020	1,430	481	91	45	686
MIN	16	34	117	49	43	49	90	39	31	10	9.6	7.6
CFSM	0.64	4.71	2.58	2.56	3.06	2.11	4.77	2.61	1.80	0.48	0.33	1.40
IN.	0.74	5.25	2.97	2.95	3.30	2.44	5.32	3.01	2.01	0.55	0.38	1.57

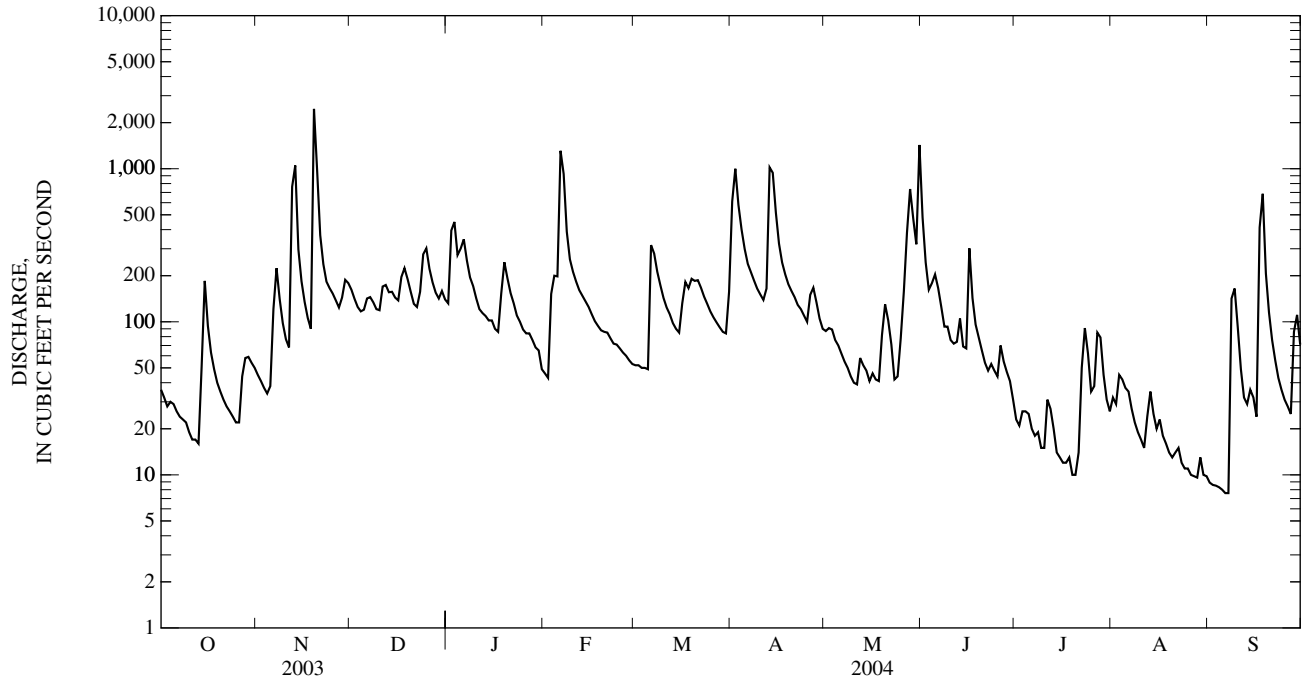
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2004, BY WATER YEAR (WY)

MEAN	20.9	71.7	70.6	92.8	152	142	156	120	97.0	68.6	34.3	35.6
MAX	40.5	296	162	161	334	221	299	200	242	288	79.0	91.5
(WY)	(2004)	(2004)	(2004)	(2004)	(2003)	(1997)	(2004)	(2001)	(2003)	(2001)	(2001)	(2003)
MIN	7.30	8.10	18.1	27.2	36.1	76.2	55.0	30.1	8.53	6.88	7.76	4.42
(WY)	(1999)	(2002)	(2002)	(2000)	(2002)	(2000)	(1999)	(1999)	(1999)	(1999)	(1999)	(1999)

03198350 CLEAR FORK AT WHITESVILLE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1997 - 2004	
ANNUAL TOTAL	54,615		51,461.7			
ANNUAL MEAN	150		141		87.9	
HIGHEST ANNUAL MEAN					141	2004
LOWEST ANNUAL MEAN					47.9	1999
HIGHEST DAILY MEAN	2,460	Nov 19	2,460	Nov 19	2,760	Jul 8, 2001
LOWEST DAILY MEAN	16	Oct 13	7.6	(b)	2.5	(c)
ANNUAL SEVEN-DAY MINIMUM	20	Oct 7	8.2	Sep 1	2.8	Sep 21, 1999
MAXIMUM PEAK FLOW			5,370	Nov 19	(d)12,000	Jul 8, 2001
MAXIMUM PEAK STAGE			21.96	Nov 19	(f)28.47	Jul 8, 2001
INSTANTANEOUS LOW FLOW			7.2	(b)	2.1	Sep 27, 1999
ANNUAL RUNOFF (CFSM)	2.38		2.24		1.40	
ANNUAL RUNOFF (INCHES)	32.35		30.48		19.03	
10 PERCENT EXCEEDS	277		261		190	
50 PERCENT EXCEEDS	89		86		48	
90 PERCENT EXCEEDS	31		18		8.4	

a Estimated from (-0.91 ft) correction applied to crest-stage gage located 250 ft upstream.
b Sept. 6, 7.
c Sept. 26, 27, 1999.
d From rating curve extended above 3,300 ft^3/s based on slope-area measurement of flow made July 10, 2001.
e Estimated.
f From floodmarks.



03198500 BIG COAL RIVER AT ASHFORD, WV

LOCATION.--Lat 38°10'47", long 81°42'42", NAD 27, Boone County, 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 upstream from Kanawha River.

DRAINAGE AREA.--391 mi^2.

PERIOD OF RECORD.--June 1908 to September 1916, May 1930 to current year. 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. Datum of gage is 622.46 ft above NGVD 29. Prior to Aug. 9, 1916, nonrecording gage at site 1.0 mi upstream at different datum. May 7, 1930, to Feb. 10, 1939, nonrecording gage at present site and datum.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	0400	13,300	17.97	Apr 13	2400	9,160	14.30
Nov 19	2400	*24,900	*25.95	May 31	1730	13,400	18.09
Feb 6	2400	9,780	14.98	Sep 18	0300	5,570	10.13
Apr 2	0700	6,590	11.35				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	267	1,110	753	388	293	2,500	506	4,870	293	270	111
2	225	254	934	1,700	417	290	5,660	514	1,920	256	226	97
3	204	243	812	3,060	573	280	3,650	523	1,280	286	345	88
4	200	224	736	1,970	1,110	283	2,500	456	1,290	270	262	81
5	201	272	738	1,910	1,040	275	1,750	400	1,820	258	223	80
6	187	486	871	2,590	5,390	1,830	1,280	366	1,340	222	238	80
7	170	1,830	944	1,900	6,840	2,240	1,060	338	992	219	241	78
8	159	1,130	899	1,380	2,830	1,510	912	313	748	196	188	695
9	150	741	802	1,130	1,780	1,100	788	293	937	180	165	1,510
10	145	571	742	920	1,350	879	682	267	791	173	140	822
11	139	466	926	764	1,100	731	613	243	631	203	129	454
12	137	2,880	1,020	702	948	643	616	237	576	193	138	310
13	133	8,690	937	667	839	569	3,360	228	526	182	197	245
14	136	2,410	1,010	625	762	515	7,180	267	522	159	213	229
15	707	1,410	1,100	613	704	486	3,430	261	434	144	164	223
16	640	1,030	1,020	564	640	516	2,040	277	1,620	133	135	192
17	413	835	1,100	519	579	972	1,470	258	1,190	132	137	1,830
18	322	702	1,370	673	525	899	1,130	215	722	151	131	4,280
19	273	9,680	1,260	1,390	489	914	925	341	585	152	115	1,880
20	243	12,600	1,030	1,250	469	886	802	555	490	136	107	1,000
21	216	2,840	859	968	461	955	729	354	412	122	151	611
22	200	1,780	784	812	444	924	647	278	359	189	155	429
23	186	1,290	863	693	409	827	594	237	472	536	139	321
24	174	1,080	1,410	616	388	730	569	227	833	369	122	257
25	164	993	1,850	562	379	652	515	246	585	278	144	219
26	164	859	1,420	537	352	585	580	422	1,300	305	102	196
27	210	772	1,100	535	331	548	818	1,480	943	589	91	178
28	320	869	924	529	314	521	758	3,060	614	627	88	180
29	326	1,330	811	474	302	478	638	1,950	443	420	129	1,350
30	316	1,280	831	469	---	449	558	1,080	350	292	156	697
31	288	---	810	395	---	561	---	7,130	---	259	144	---
TOTAL	7,579	59,814	31,023	31,670	32,153	23,341	48,754	23,322	29,595	7,924	5,185	18,723
MEAN	244	1,994	1,001	1,022	1,109	753	1,625	752	986	256	167	624
MAX	707	12,600	1,850	3,060	6,840	2,240	7,180	7,130	4,870	627	345	4,280
MIN	133	224	736	395	302	275	515	215	350	122	88	78
CFSM	0.63	5.10	2.56	2.61	2.84	1.93	4.16	1.92	2.52	0.65	0.43	1.60
IN.	0.72	5.69	2.95	3.01	3.06	2.22	4.64	2.22	2.82	0.75	0.49	1.78

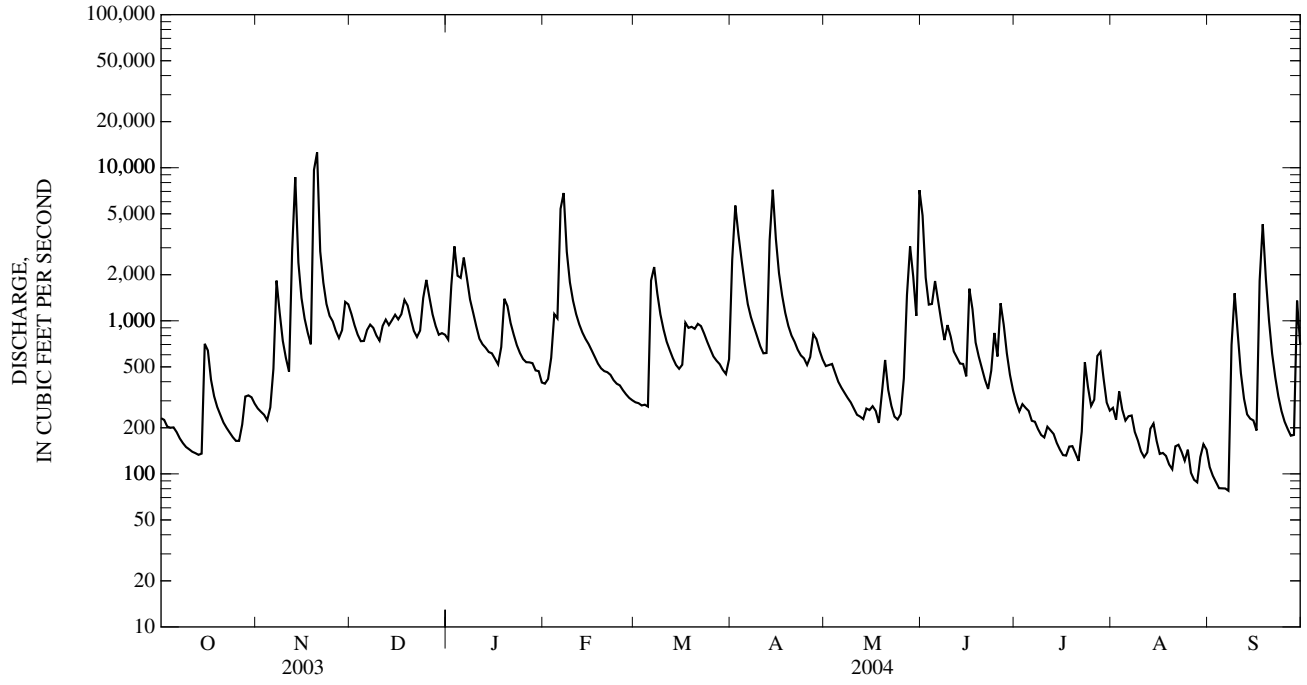
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 2004, BY WATER YEAR (WY)

MEAN	123	263	558	822	1,011	1,187	911	621	325	238	175	112
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)

03198500 BIG COAL RIVER AT ASHFORD, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1908 - 2004	
ANNUAL TOTAL	337,362		319,083			
ANNUAL MEAN	924		872		528	
HIGHEST ANNUAL MEAN					872	2004
LOWEST ANNUAL MEAN					206	1941
HIGHEST DAILY MEAN	12,600	Nov 20	12,600	Nov 20	20,400	Mar 7, 1967
LOWEST DAILY MEAN	133	Oct 13	78	Sep 7	0.00	(a)
ANNUAL SEVEN-DAY MINIMUM	143	Oct 8	88	Sep 1	0.00	Oct 6, 1930
MAXIMUM PEAK FLOW			24,900	Nov 19	(b)35,800	Aug 9, 1916
MAXIMUM PEAK STAGE			25.95	Nov 19	(c)36.30	Aug 9, 1916
INSTANTANEOUS LOW FLOW			75	Sep 7	0.00	(a)
ANNUAL RUNOFF (CFSM)	2.36		2.23		1.35	
ANNUAL RUNOFF (INCHES)	32.10		30.36		18.34	
10 PERCENT EXCEEDS	1,750		1,780		1,250	
50 PERCENT EXCEEDS	583		542		231	
90 PERCENT EXCEEDS	196		152		30	

a Sept. 18-21, 24, Oct. 6-12, 1930.
b From rating curve extended above 25,000 ft^3/s.
c Observed. From floodmark, site and datum then in use. This peak stage is 35.66 ft at present site and datum.



03200500 COAL RIVER AT TORNADO, WV

LOCATION.--Lat 38°20'20", long 81°50'30", NAD 27, Kanawha County, 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 mi^2, includes that of Falls Creek.

PERIOD OF RECORD.--June 1908 to September 1911, October 1911 to June 1912 (gage heights only), November 1928 to September 1931, August 1961 to current year.

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 570.46 ft above NGVD 29. 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.--No estimated daily discharges. Records good.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	1200	27,500	26.26	Apr 14	1000	18,000	20.68
Nov 20	0800	*32,500	*28.98	May 31	2400	20,400	22.20
Feb 7	0600	18,000	20.67				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	585	572	2,460	1,670	990	651	3,720	1,080	12,900	629	607	275
2	607	526	2,070	3,780	1,120	649	12,300	1,070	4,220	557	528	225
3	517	489	1,790	6,540	1,580	635	8,910	1,130	2,710	564	520	210
4	484	460	1,610	4,310	2,130	644	5,370	976	2,720	635	573	192
5	502	1,380	1,590	4,240	2,190	655	3,790	884	6,740	554	499	188
6	464	1,900	1,820	5,340	8,690	5,140	2,790	831	3,940	485	541	193
7	428	3,140	1,970	4,050	15,600	5,290	2,290	793	2,600	435	520	182
8	394	2,590	1,890	2,990	6,790	3,320	1,990	752	1,880	441	417	1,250
9	382	1,770	1,710	2,470	3,930	2,420	1,750	722	1,710	405	345	3,210
10	360	1,370	1,620	2,070	3,010	1,930	1,510	692	1,620	409	316	1,930
11	344	1,150	2,010	1,710	2,470	1,610	1,350	679	1,300	467	293	1,040
12	333	7,860	2,120	1,540	2,120	1,410	1,370	542	1,210	414	292	701
13	316	24,000	2,000	1,470	1,890	1,240	4,730	502	1,260	392	427	525
14	323	7,740	2,330	1,380	1,690	1,120	16,600	510	1,170	360	422	459
15	771	3,350	2,690	1,340	1,550	1,050	9,240	519	984	318	339	436
16	1,190	2,430	2,440	1,240	1,390	1,060	4,570	517	2,040	307	296	371
17	797	1,930	2,490	1,140	1,270	1,490	3,250	565	2,030	289	273	2,490
18	646	1,610	2,650	1,480	1,160	1,550	2,520	479	1,260	312	281	8,740
19	541	11,000	2,610	2,560	1,090	1,680	2,080	621	1,060	319	260	3,290
20	481	27,200	2,260	2,560	1,050	1,660	1,790	942	974	298	244	1,690
21	438	8,420	1,900	2,070	1,010	1,940	1,620	684	851	282	326	1,100
22	402	4,020	1,740	1,780	969	1,840	1,440	557	735	399	400	833
23	376	2,900	1,840	1,550	901	1,670	1,300	480	857	916	312	655
24	358	2,370	2,600	1,380	853	1,500	1,250	454	1,200	720	281	556
25	328	2,190	3,660	1,270	846	1,360	1,130	454	1,030	498	262	490
26	341	1,880	3,030	1,270	786	1,230	1,210	754	1,630	644	260	438
27	538	1,690	2,420	1,290	735	1,140	1,490	2,030	1,680	1,710	219	415
28	702	1,840	2,040	1,270	689	1,090	1,420	7,670	1,150	1,320	203	426
29	705	3,020	1,790	1,140	674	1,020	1,240	3,900	901	894	227	1,130
30	674	2,900	1,810	1,120	---	962	1,130	2,180	718	625	328	947
31	605	---	1,800	998	---	1,170	---	8,600	---	501	363	---
TOTAL	15,932	133,697	66,760	69,018	69,173	50,126	105,150	42,569	65,080	17,099	11,174	34,587
MEAN	514	4,457	2,154	2,226	2,385	1,617	3,505	1,373	2,169	552	360	1,153
MAX	1,190	27,200	3,660	6,540	15,600	5,290	16,600	8,600	12,900	1,710	607	8,740
MIN	316	460	1,590	998	674	635	1,130	454	718	282	203	182
CFSM	0.60	5.17	2.50	2.58	2.77	1.88	4.07	1.59	2.52	0.64	0.42	1.34
IN.	0.69	5.77	2.88	2.98	2.99	2.16	4.54	1.84	2.81	0.74	0.48	1.49

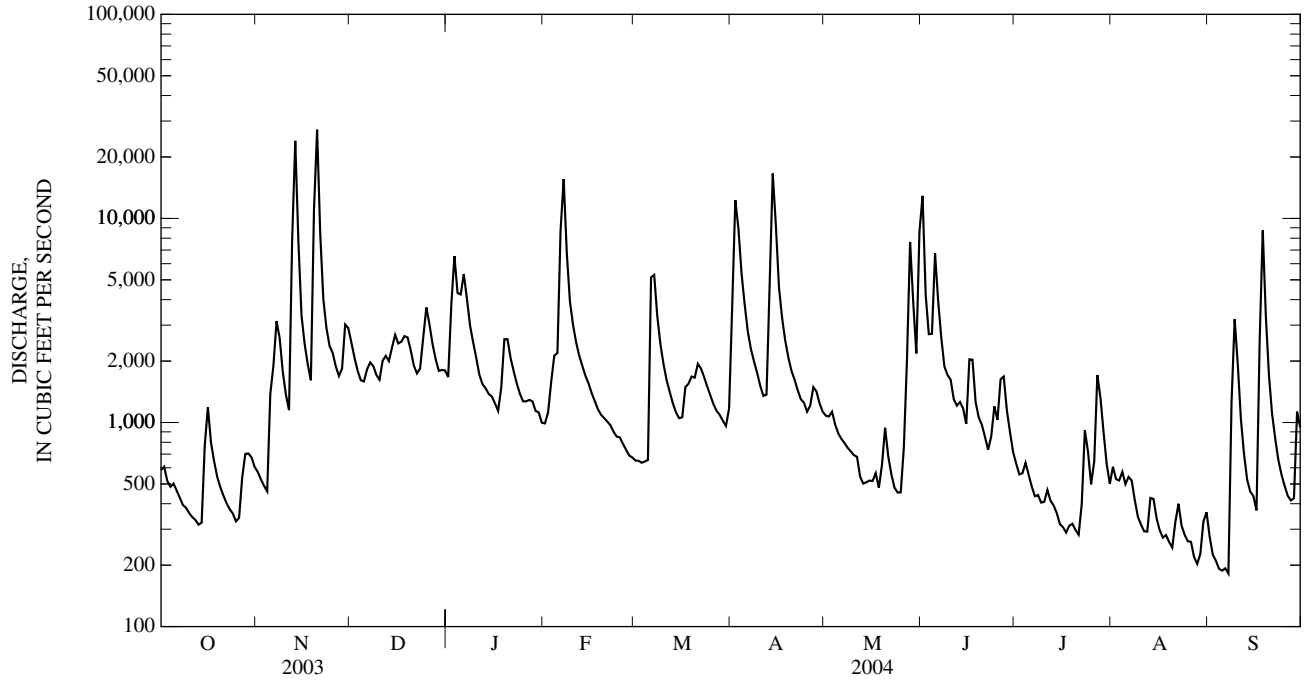
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 2004, BY WATER YEAR (WY)

MEAN	357	821	1,313	1,706	2,194	2,451	2,022	1,594	880	577	438	328
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)

03200500 COAL RIVER AT TORNADO, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1908 - 2004	
ANNUAL TOTAL	765,362		680,365			
ANNUAL MEAN	2,097		1,859		1,220	
HIGHEST ANNUAL MEAN					1,859	2004
LOWEST ANNUAL MEAN					585	1988
HIGHEST DAILY MEAN	27,200	Nov 20	27,200	Nov 20	32,000	Dec 31, 1969
LOWEST DAILY MEAN	316	Oct 13	182	Sep 7	(e)2.0	(a)
ANNUAL SEVEN-DAY MINIMUM	350	Oct 8	209	Sep 1	2.0	Oct 1, 1930
MAXIMUM PEAK FLOW			32,500	Nov 20	35,500	Mar 7, 1967
MAXIMUM PEAK STAGE			28.98	Nov 20	31.98	Mar 7, 1967
INSTANTANEOUS LOW FLOW			176	Sep 7	2.0	Oct 1, 1930
ANNUAL RUNOFF (CFSM)	2.43		2.16		1.42	
ANNUAL RUNOFF (INCHES)	33.03		29.36		19.23	
10 PERCENT EXCEEDS	3,610		3,680		2,730	
50 PERCENT EXCEEDS	1,340		1,140		650	
90 PERCENT EXCEEDS	462		340		114	

a Oct. 1-10, 1930.
e Estimated.



03201405 HURRICANE CREEK AT HURRICANE, WV

LOCATION.--Lat 38°26'43", long 82°00'25", NAD 27, Putnam County, Hydrologic Unit 05050008, on right bank at Interstate 64 bridge over Hurricane Creek and just upstream from the Hurricane Waste Water Treatment Plant chain-linked fence.

DRAINAGE AREA.--26.8 mi^2.

PERIOD OF RECORD.--October 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 600.00 ft above NGVD 29.

REMARKS.--Records fair, except those for periods of estimated daily discharges (no gage-height record), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s (revised) and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	1900	2,290	15.43	Apr 13	1630	1,460	13.46
Nov 19	1130	*3,690	*18.01	May 28	0400	3,200	17.19
Jan 2	1100	973	11.78	Aug 21	0800	1,260	12.88
Jan 5	1130	975	11.79	Sep 8	1530	1,720	14.12
Feb 6	0800	1,080	12.24	Sep 17	1630	2,000	14.80
Mar 6	0630	1,630	13.90				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	8.7	33	22	17	7.0	200	25	54	2.3	5.4	1.8
2	16	7.4	22	490	33	9.5	329	27	103	2.1	3.6	1.6
3	8.7	6.7	17	136	342	7.9	132	23	27	3.3	3.1	e1.4
4	8.4	5.7	16	73	122	13	67	14	102	4.8	2.3	e1.3
5	6.3	353	20	480	193	47	38	12	187	6.6	40	e1.1
6	5.0	155	30	140	729	838	27	9.9	50	2.6	11	e1.0
7	4.2	58	23	59	290	129	23	8.0	21	2.2	4.5	e0.90
8	3.4	28	19	39	97	57	19	6.9	12	2.0	2.9	e1,000
9	2.8	17	16	34	61	34	16	5.8	8.0	1.7	2.2	479
10	2.5	13	56	25	47	23	13	5.0	47	4.9	9.5	52
11	2.6	12	112	21	36	18	12	4.5	39	6.5	14	20
12	2.2	1,180	47	22	29	16	83	4.8	19	2.9	15	12
13	e2.0	404	31	23	25	13	678	4.1	13	1.9	12	8.8
14	e5.0	60	104	19	22	12	236	3.7	8.3	1.4	4.4	7.5
15	e24	34	107	19	19	12	101	15	7.2	1.3	2.6	6.7
16	e13	23	59	14	16	24	51	8.9	11	1.3	1.9	8.1
17	e8.0	18	188	14	15	20	e33	5.5	20	1.1	1.6	1,070
18	e6.0	17	96	117	14	19	e26	6.3	24	1.2	1.3	272
19	e4.5	1,660	72	89	13	37	19	13	11	1.1	1.3	44
20	3.0	246	51	40	13	32	19	16	7.0	1.0	1.3	18
21	3.3	86	39	28	13	119	17	6.0	4.8	0.97	403	11
22	3.8	43	42	23	11	43	31	18	7.3	89	32	7.4
23	3.5	27	59	21	9.6	28	33	6.1	11	138	9.4	5.9
24	3.4	31	120	17	11	21	52	4.2	5.3	54	5.7	5.1
25	3.4	25	77	29	9.3	18	27	6.3	3.9	11	4.4	4.6
26	5.3	19	43	95	7.9	e19	146	70	3.5	44	2.8	3.9
27	138	16	32	110	7.6	e20	60	85	3.1	120	2.3	3.6
28	37	101	26	57	7.0	16	30	1,270	2.7	25	2.2	3.9
29	29	115	22	37	6.9	e13	21	63	2.7	9.1	7.7	4.5
30	17	53	40	31	---	17	17	27	2.4	5.0	5.7	3.9
31	11	---	27	40	---	29	---	213	---	6.6	2.7	---
TOTAL	414.3	4,822.5	1,646	2,364	2,216.3	1,711.4	2,556	1,987.0	817.2	554.87	617.8	3,061.00
MEAN	13.4	161	53.1	76.3	76.4	55.2	85.2	64.1	27.2	17.9	19.9	102
MAX	138	1,660	188	490	729	838	678	1,270	187	138	403	1,070
MIN	2.0	5.7	16	14	6.9	7.0	12	3.7	2.4	0.97	1.3	0.90
CFSM	0.50	6.00	1.98	2.85	2.85	2.06	3.18	2.39	1.02	0.67	0.74	3.81
IN.	0.58	6.69	2.28	3.28	3.08	2.38	3.55	2.76	1.13	0.77	0.86	4.25

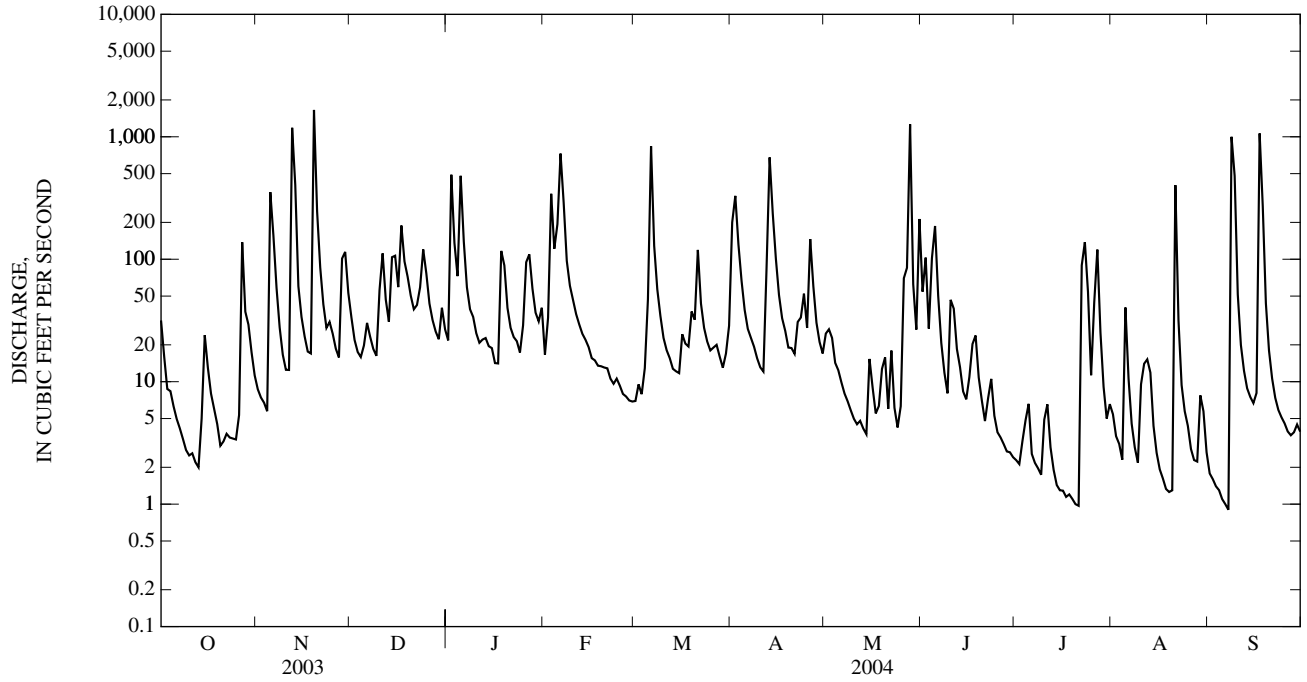
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2004, BY WATER YEAR (WY)

MEAN	8.40	38.9	25.3	36.6	64.6	59.1	49.2	52.5	24.8	30.7	17.0	23.7
MAX	22.8	161	53.1	76.3	157	104	85.2	116	66.3	80.6	25.3	102
(WY)	(2003)	(2004)	(2004)	(2004)	(2003)	(2002)	(2004)	(2001)	(2003)	(2000)	(2000)	(2004)
MIN	1.50	1.96	6.79	9.18	10.3	24.9	11.5	2.25	0.79	0.42	6.08	0.69
(WY)	(2002)	(2002)	(2002)	(2000)	(2002)	(2003)	(1999)	(1999)	(1999)	(1999)	(2002)	(1999)

03201405 HURRICANE CREEK AT HURRICANE, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1998 - 2004	
ANNUAL TOTAL	19,464.8		22,768.37			
ANNUAL MEAN	53.3		62.2		35.7	
HIGHEST ANNUAL MEAN					62.2	2004
LOWEST ANNUAL MEAN					17.8	1999
HIGHEST DAILY MEAN	1,660	Nov 19	1,660	Nov 19	1,660	Nov 19, 2003
LOWEST DAILY MEAN	1.4	Sep 14	(e)0.90	Sep 7	0.08	(a)
ANNUAL SEVEN-DAY MINIMUM	1.7	Sep 8	1.1	Jul 15	0.09	Jul 13, 1999
MAXIMUM PEAK FLOW			3,690	Nov 19	3,690	Nov 19, 2003
MAXIMUM PEAK STAGE			18.01	Nov 19	18.01	Nov 19, 2003
INSTANTANEOUS LOW FLOW			(b)	(b)	0.06	(a)
ANNUAL RUNOFF (CFSM)	1.99		2.32		1.33	
ANNUAL RUNOFF (INCHES)	27.02		31.60		18.10	
10 PERCENT EXCEEDS	112		119		78	
50 PERCENT EXCEEDS	18		17		7.4	
90 PERCENT EXCEEDS	2.6		2.6		1.0	

a July 18, 19, 1999.
b Not determined.
e Estimated.



REVISONS.--The peak discharges for the 1999-2003 water years have been revised, as shown in the following table.

Date	Discharge (ft^3/s)	Gage height (ft)
01-09-99	952	11.68
03-03-99	683	10.23
03-14-99	887	11.36
08-25-99	661	10.10
12-14-99	653	10.05
02-14-00	1,260	12.91
02-18-00	3,090	16.99
07-11-00	1,190	12.64
07-14-00	593	9.68
07-19-00	901	11.43
07-30-00	1,190	12.64
08-10-00	975	11.79
09-02-00	602	9.24
03-13-01	973	11.78
05-18-01	1,460	13.47
05-19-01	1,920	14.61
05-22-01	723	10.47
07-26-01	2,560	16.00
07-28-01	1,270	12.93
08-13-01	1,910	14.58
03-20-02	1,880	14.52
03-26-02	776	10.78
03-31-02	700	10.33
04-22-02	716	10.43
04-28-02	701	10.34
05-07-02	982	11.82
05-18-02	625	9.88
10-16-02	665	10.12
02-15-03	775	10.77
02-16-03	1,680	14.02
02-22-03	768	10.73
02-23-03	846	11.16
05-11-03	1,620	13.88
05-18-03	661	10.10
06-14-03	2,750	16.37
09-19-03	642	9.98

03202400 GUYANDOTTE RIVER AT BAILEYSVILLE, WV

LOCATION.--Lat 37°36'14", long 81°38'43", NAD 27, Wyoming County, 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 mi^2.

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

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of the gage is 1,140.00 above NGVD 29. Prior to Sept. 10, 1969, at site 25 ft upstream at same datum.

REMARKS.--Records good except for period of estimated daily discharge (ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 19	1730	*28,000	*23.82	Apr 14	0530	7,290	11.31
Jan 2	2100	4,580	8.67	May 31	1300	9,870	13.78
Feb 6	2300	5,750	9.81				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	178	735	559	308	285	652	590	2,470	240	234	127
2	156	172	640	2,030	313	288	1,210	558	1,110	225	214	113
3	143	166	570	2,990	435	308	1,450	675	738	248	418	109
4	137	160	552	1,650	563	297	1,300	594	611	343	292	108
5	134	165	654	1,720	582	289	1,020	543	849	275	551	105
6	130	413	838	2,640	2,740	1,310	802	490	699	227	959	103
7	123	1,160	876	1,690	4,040	1,640	694	435	555	207	468	102
8	120	755	780	1,230	2,040	1,160	617	392	443	193	318	349
9	114	500	679	1,030	1,310	888	545	358	383	184	250	822
10	113	383	641	841	1,030	723	476	331	340	171	210	459
11	111	326	899	696	861	598	434	322	332	174	197	288
12	108	330	924	644	745	528	456	308	422	191	223	214
13	106	1,640	789	588	671	462	3,590	288	872	173	252	178
14	127	1,030	761	557	619	411	5,640	303	554	156	210	153
15	843	686	698	547	583	391	2,490	266	468	147	182	139
16	420	543	621	500	527	548	1,570	242	625	138	177	130
17	279	467	788	462	476	1,020	1,170	232	500	139	180	222
18	228	419	1,070	810	446	885	921	217	393	171	164	1,200
19	196	11,400	956	1,680	420	789	771	215	417	152	157	672
20	175	4,560	777	1,210	413	684	682	224	616	134	147	382
21	163	1,860	635	893	439	738	635	208	459	126	146	269
22	158	1,220	578	742	467	682	550	193	371	128	194	216
23	146	918	592	630	408	617	499	185	374	293	168	186
24	138	788	1,030	558	389	561	502	180	378	210	145	168
25	130	690	1,420	512	373	509	442	187	351	165	184	155
26	127	579	1,060	477	351	456	790	469	549	146	174	143
27	162	522	841	453	339	422	1,590	982	452	805	147	135
28	229	580	718	414	318	398	1,090	913	353	710	132	593
29	216	860	635	356	298	368	809	1,070	299	376	127	673
30	205	814	641	e330	---	352	666	631	269	264	125	354
31	186	---	615	311	---	435	---	5,770	---	225	126	---
TOTAL	5,780	34,284	24,013	29,750	22,504	19,042	34,063	18,371	17,252	7,336	7,471	8,867
MEAN	186	1,143	775	960	776	614	1,135	593	575	237	241	296
MAX	843	11,400	1,420	2,990	4,040	1,640	5,640	5,770	2,470	805	959	1,200
MIN	106	160	552	311	298	285	434	180	269	126	125	102
CFSM	0.61	3.73	2.53	3.14	2.54	2.01	3.71	1.94	1.88	0.77	0.79	0.97
IN.	0.70	4.17	2.92	3.62	2.74	2.31	4.14	2.23	2.10	0.89	0.91	1.08

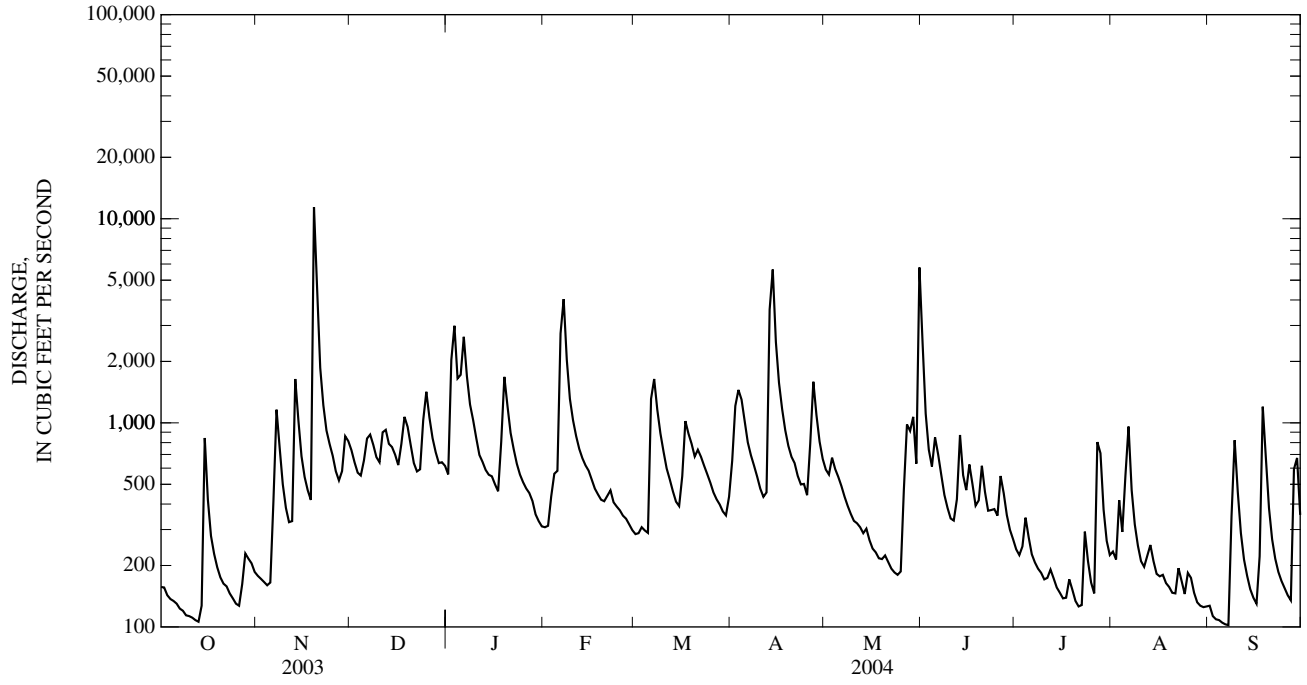
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2004, BY WATER YEAR (WY)

MEAN	139	245	398	592	764	787	736	630	335	227	170	114
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	47.1
(WY)	(1979)	(1979)	(1998)	(2000)	(2002)	(1988)	(1986)	(1976)	(1999)	(1999)	(1970)	(1998)

03202400 GUYANDOTTE RIVER NEAR BAILEYSVILLE, WV--Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1968 - 2004	
ANNUAL TOTAL	273,076		228,733			
ANNUAL MEAN	748		625		427	
HIGHEST ANNUAL MEAN					692	2003
LOWEST ANNUAL MEAN					174	1988
HIGHEST DAILY MEAN	11,400	Nov 19	11,400	Nov 19	17,900	Apr 5, 1977
LOWEST DAILY MEAN	106	Oct 13	102	Sep 7	23	Nov 11, 1978
ANNUAL SEVEN-DAY MINIMUM	114	Oct 7	110	Sep 1	27	Oct 17, 1978
MAXIMUM PEAK FLOW			28,000	Nov 19	(a)46,400	Jul 8, 2001
MAXIMUM PEAK STAGE			23.82	Nov 19	(b)31.25	Jul 8, 2001
INSTANTANEOUS LOW FLOW			100	(c)	21	Oct 14, 1970
ANNUAL RUNOFF (CFSM)	2.44		2.04		1.40	
ANNUAL RUNOFF (INCHES)	33.20		27.81		18.96	
10 PERCENT EXCEEDS	1,350		1,100		924	
50 PERCENT EXCEEDS	494		440		234	
90 PERCENT EXCEEDS	165		146		58	

a From rating curve exended above 37,000 ft^3/s on basis of slope-conveyance measurement.
b From floodmarks.
c Sept. 6, 7.



03202750 CLEAR FORK AT CLEAR FORK, WV

LOCATION.--Lat 37°37'23", long 81°42'27", NAD 27, Wyoming County, 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 mi^2.

REVISED RECORDS.--WDR WV-81-1: Drainage area. WDR WV-94-1: 1993.

PERIOD OF RECORD.--June 1974 to current year. Prior to October 22, 1974, partial record station.

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is approximately 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.--Records good except those for March 9-29, which are fair, and periods of estimated daily discharges (ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 13	0500	2,370	7.32	Feb 6	2100	4,540	10.23
Nov 19	1800	*8,250	*14.18	Apr 13	2200	3,680	9.14
Jan 2	2000	3,290	8.62	May 31	1400	7,990	13.99

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	70	338	217	e105	107	558	153	1,220	100	36	31
2	47	67	270	1,580	e100	114	1,310	214	523	87	33	26
3	41	62	225	1,550	207	114	949	192	310	80	62	23
4	39	57	216	710	348	112	658	151	319	99	38	22
5	40	62	254	680	402	116	453	129	541	88	241	20
6	36	414	464	980	2,620	921	332	112	365	69	202	19
7	34	847	484	661	2,390	991	272	95	238	56	92	18
8	32	398	369	464	928	708	233	83	170	50	63	163
9	29	236	284	375	563	549	200	74	138	44	49	407
10	27	170	254	284	436	415	171	67	114	42	40	220
11	26	137	391	212	359	341	154	61	103	46	36	114
12	25	212	388	194	307	302	181	54	120	44	38	76
13	24	1,640	327	190	273	266	1,630	51	121	39	69	58
14	36	605	341	183	244	231	2,310	54	93	36	53	49
15	302	346	325	191	227	222	877	49	94	33	41	43
16	167	252	295	173	204	366	513	44	101	32	35	38
17	108	215	434	161	182	731	339	43	93	31	35	153
18	83	192	592	452	169	577	251	40	81	34	30	866
19	68	4,790	468	914	161	478	202	40	138	33	30	318
20	58	2,180	345	556	159	393	177	46	268	29	28	154
21	52	689	260	367	171	424	162	40	150	25	36	101
22	48	426	230	280	154	389	139	34	105	27	83	76
23	45	309	262	223	137	312	133	32	272	93	50	62
24	42	281	653	189	138	243	126	32	288	53	43	53
25	38	268	759	167	137	211	108	31	304	38	37	47
26	35	238	496	159	125	193	250	59	894	34	35	43
27	56	222	359	160	122	170	443	289	420	80	30	40
28	104	261	287	143	116	154	311	212	230	102	27	372
29	91	406	246	122	107	131	221	218	161	60	26	419
30	85	396	261	e115	---	129	177	174	123	46	84	197
31	75	---	239	111	---	222	---	5,130	---	40	41	---
TOTAL	1,941	16,448	11,116	12,763	11,591	10,632	13,840	8,003	8,097	1,670	1,743	4,228
MEAN	62.6	548	359	412	400	343	461	258	270	53.9	56.2	141
MAX	302	4,790	759	1,580	2,620	991	2,310	5,130	1,220	102	241	866
MIN	24	57	216	111	100	107	108	31	81	25	26	18
CFSM	0.50	4.35	2.85	3.27	3.17	2.72	3.66	2.05	2.14	0.43	0.45	1.12
IN.	0.57	4.86	3.28	3.77	3.42	3.14	4.09	2.36	2.39	0.49	0.51	1.25

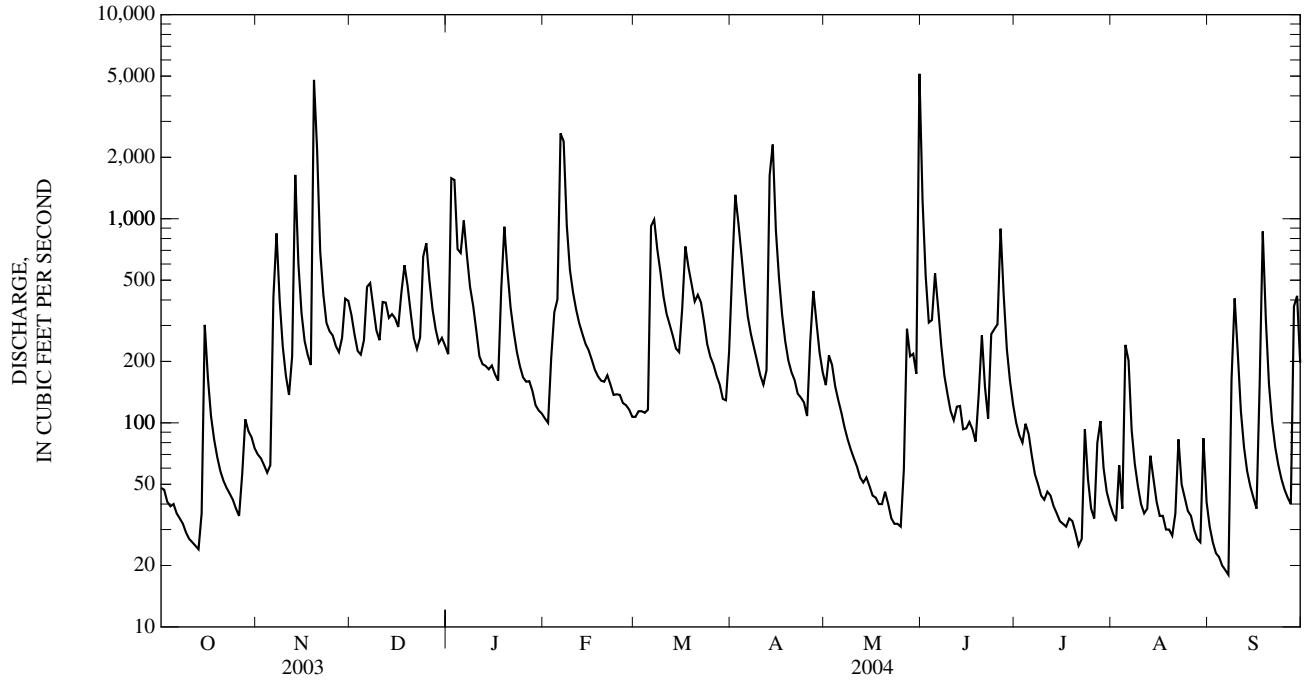
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2004, BY WATER YEAR (WY)

MEAN	59.2	131	204	291	366	371	317	262	138	91.0	65.8	48.1
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)

03202750 CLEAR FORK AT CLEAR FORK, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1974 - 2004	
ANNUAL TOTAL	112,780		102,072			
ANNUAL MEAN	309		279		195	
HIGHEST ANNUAL MEAN					318	1979
LOWEST ANNUAL MEAN					76.5	1988
HIGHEST DAILY MEAN	4,790	Nov 19	5,130	May 31	6,380	Apr 5, 1977
LOWEST DAILY MEAN	24	Oct 13	18	Sep 7	2.2	Sep 26, 1999
ANNUAL SEVEN-DAY MINIMUM	28	Oct 7	23	Sep 1	2.8	Sep 22, 1999
MAXIMUM PEAK FLOW			8,250	Nov 19	(a)10,700	Jul 8, 2001
MAXIMUM PEAK STAGE			14.18	Nov 19	(b)18.64	Apr 5, 1977
INSTANTANEOUS LOW FLOW			17	Sep 7	1.7	Sep 27, 1999
ANNUAL RUNOFF (CFSM)	2.45		2.21		1.55	
ANNUAL RUNOFF (INCHES)	33.30		30.14		21.01	
10 PERCENT EXCEEDS	606		557		447	
50 PERCENT EXCEEDS	165		159		88	
90 PERCENT EXCEEDS	40		35		12	

a From slope-conveyance measurement of peak flow.
b Site and datum then in use.
e Estimated.



03203600 GUYANDOTTE RIVER AT LOGAN, WV

LOCATION.--Lat 37°50'32", long 81°58'34", NAD 27, Logan County, 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 mi^2.

PERIOD OF RECORD.--October 1960 to September 1962 (annual maximum only), October 1962 to current year. 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 640.49 ft above NGVD 29. Datum published as 640.00 ft, 1963 to 1993. Prior to Oct. 1, 1962, at datum 1.32 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since February 1980 by R. D. Bailey Lake at mile 112.

PEAK DISCHARGE FOR CURRENT YEAR.--Maximum discharge, 26,000 ft^3/s, May 31, gage height, 26.21 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	511	470	4,580	1,290	879	694	1,590	1,540	5,430	630	535	314
2	469	445	4,320	3,910	772	663	3,280	1,410	4,600	644	467	243
3	445	524	3,370	5,250	1,160	660	5,100	1,460	4,250	500	703	199
4	452	529	1,510	5,190	1,610	711	4,500	1,350	7,620	752	751	187
5	438	556	1,500	5,170	2,220	714	4,130	1,190	8,250	832	1,330	181
6	324	1,320	2,060	5,470	7,510	2,930	2,890	1,100	5,160	620	1,770	178
7	371	2,660	2,240	4,920	7,100	4,070	1,400	944	4,180	597	1,360	183
8	532	2,770	2,200	3,940	5,350	4,480	1,310	842	3,740	465	823	828
9	377	2,340	1,980	2,700	4,890	3,210	662	602	2,100	449	599	1,850
10	324	1,000	1,650	2,410	4,660	2,030	510	744	1,100	473	426	1,490
11	337	1,060	1,980	1,910	4,530	1,660	467	728	892	428	398	1,130
12	344	1,450	2,200	1,600	3,780	1,460	487	717	1,230	413	441	630
13	343	3,700	2,050	1,580	1,800	1,260	3,880	609	2,160	391	543	406
14	387	4,120	1,940	1,440	1,650	1,160	8,720	585	1,830	379	502	496
15	885	3,210	2,020	1,440	1,540	1,000	6,040	587	1,140	368	312	391
16	1,580	1,570	1,880	1,310	1,360	1,130	5,300	597	1,140	356	297	359
17	867	1,460	1,930	1,180	1,300	1,970	4,880	552	1,470	353	316	1,590
18	691	1,240	2,510	1,710	1,080	2,370	4,180	479	946	295	314	3,500
19	623	8,490	2,760	2,910	1,090	2,040	3,990	477	1,060	282	303	2,720
20	410	4,580	2,100	2,540	1,030	1,810	4,190	479	1,210	271	246	1,590
21	440	5,030	1,680	2,640	1,020	1,780	2,600	446	1,340	345	280	869
22	518	4,540	1,600	2,490	1,000	1,830	1,490	440	946	292	344	635
23	521	4,300	1,590	2,340	1,000	1,720	1,290	432	1,300	335	382	568
24	307	4,220	2,450	1,810	881	1,540	1,420	330	1,540	570	372	488
25	357	4,090	3,140	1,400	864	1,440	1,070	323	1,700	455	323	422
26	369	3,560	3,090	1,370	834	1,260	1,410	626	3,160	368	269	402
27	463	2,590	2,700	1,260	779	1,130	2,200	1,830	2,170	643	264	348
28	588	2,860	1,930	1,260	762	1,000	2,640	2,110	1,470	1,410	275	481
29	705	3,780	1,580	1,100	738	1,090	2,380	2,000	1,230	1,060	351	2,120
30	754	4,170	1,170	990	---	917	1,630	1,690	962	481	380	1,250
31	623	---	1,980	914	---	1,050	---	13,900	---	519	377	---
TOTAL	16,355	82,634	69,690	75,444	63,189	50,779	85,636	41,119	75,326	15,976	16,053	26,048
MEAN	528	2,754	2,248	2,434	2,179	1,638	2,855	1,326	2,511	515	518	868
MAX	1,580	8,490	4,580	5,470	7,510	4,480	8,720	13,900	8,250	1,410	1,770	3,500
MIN	307	445	1,170	914	738	660	467	323	892	271	246	178

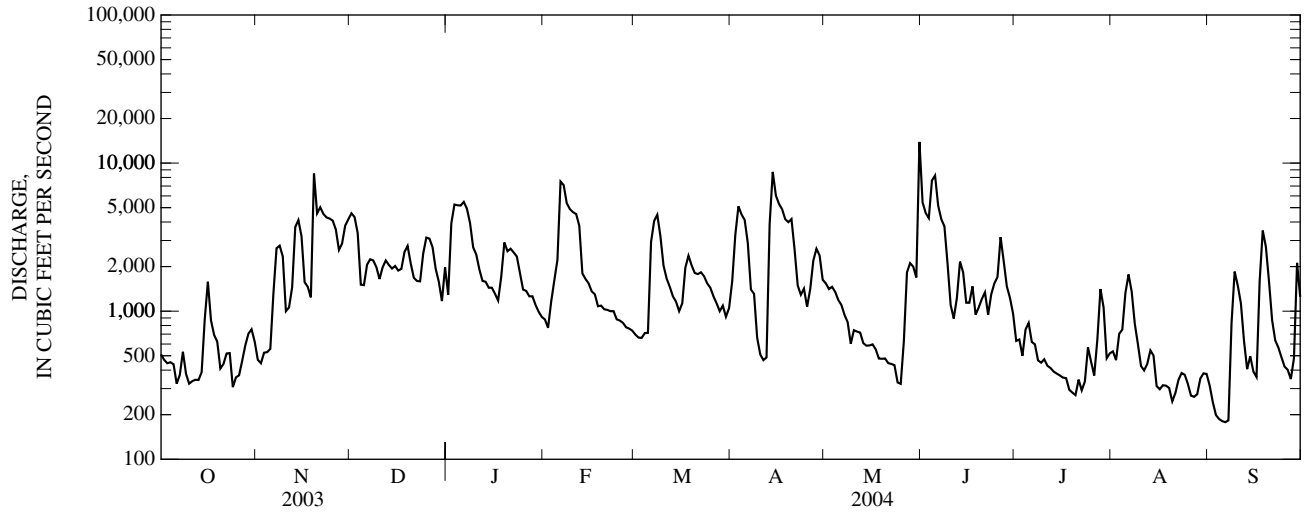
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2004, BY WATER YEAR (WY)

MEAN	369	722	1,036	1,498	2,142	2,125	1,842	1,697	942	559	399	312
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	577	150	120	89.1	70.2
(WY)	(1999)	(1988)	(1998)	(2000)	(2002)	(1988)	(1986)	(2000)	(1999)	(1988)	(1987)	(1999)

03203600 GUYANDOTTE RIVER AT LOGAN, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1980 - 2004	
ANNUAL TOTAL	682,136		618,249			
ANNUAL MEAN	1,869		1,689		1,131	
HIGHEST ANNUAL MEAN					1,712	2003
LOWEST ANNUAL MEAN					432	1988
HIGHEST DAILY MEAN	13,100	Feb 16	13,900	May 31	14,800	May 7, 1984
LOWEST DAILY MEAN	256	Sep 1	178	Sep 6	48	(a)
ANNUAL SEVEN-DAY MINIMUM	340	Aug 26	212	Sep 1	51	Sep 14, 1999
MAXIMUM PEAK FLOW			26,000	May 31	27,200	May 7, 1984
MAXIMUM PEAK STAGE			26.21	May 31	26.21	May 31, 2004
INSTANTANEOUS LOW FLOW			174	Sep 7	45	Oct 26, 1991
10 PERCENT EXCEEDS	4,500		4,170		2,950	
50 PERCENT EXCEEDS	1,310		1,180		595	
90 PERCENT EXCEEDS	421		355		152	

a July 10, Aug. 18, 1988.



STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1979, BY WATER YEAR (WY) [UNREGULATED]

	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)

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
INSTANTANEOUS PEAK FLOW	(*)55,000	Mar 12, 1963
INSTANTANEOUS PEAK STAGE	34.98	Mar 12, 1963
INSTANTANEOUS LOW FLOW	33	Sep 17, 1964
10 PERCENT EXCEEDS	2,560	
50 PERCENT EXCEEDS	602	
90 PERCENT EXCEEDS	110	

* From rating curve extended above 26,000 ft^3/s on basis of slope-area measurements at gage heights 25.60 ft and 34.98 ft.

03204250 MUD RIVER AT PALERMO, WV
(Detention Reservoir)

LOCATION.-- Lat 38°09'54", long 81°03'31", Lincoln County, Hydrologic Unit 05070102.

DAM NAME.--Upper Mud #2-A.

SURFACE AREA.--306 acres.

DRAINAGE AREA.--51.3 mi^2.

PERIOD OF RECORD.-- October 2003 to September 2004.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 721.5 ft above NGVD 29.

REMARKS.-- Normal Pool = 21.5 ft (Normal Storage=4490 acre-ft)

Top of Riser = 29.0 ft

Emergency Spillway = 42.5 ft

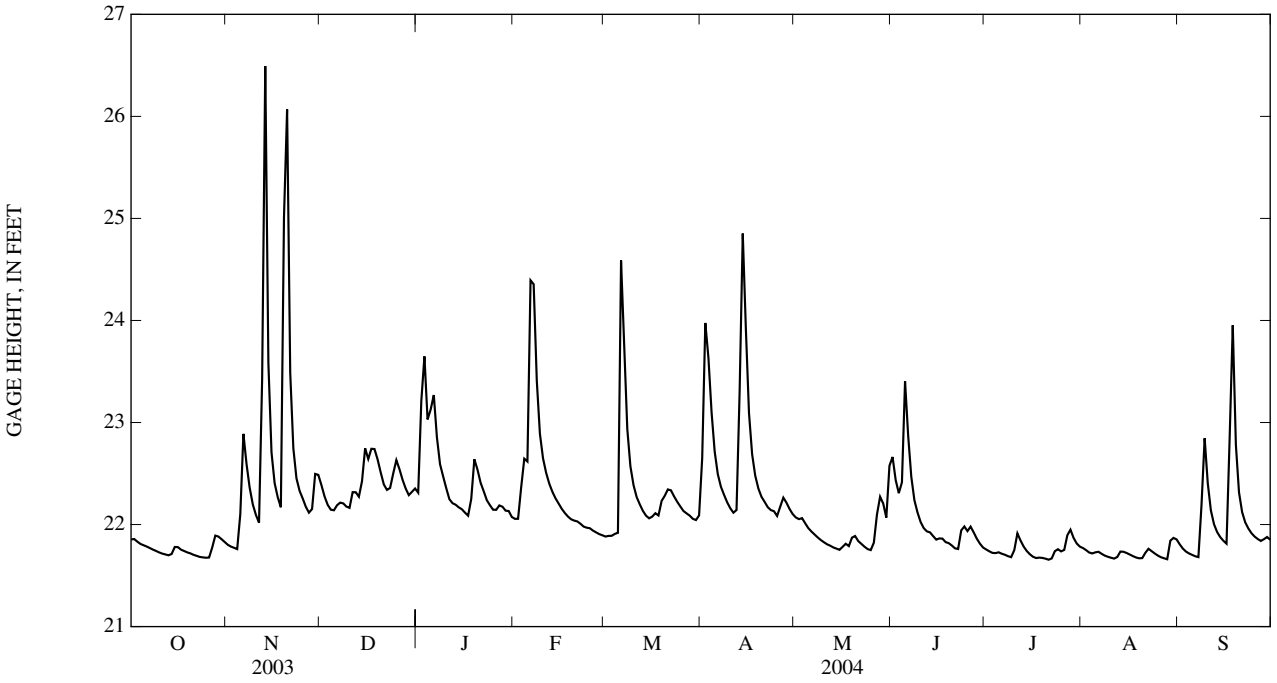
Top of Dam = 59.5 ft

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 27.98 ft, Nov. 19; minimum gage height, 21.65 ft, July 21, 22, and Aug. 28, 29.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.85	21.80	22.39	22.31	22.06	21.88	22.65	22.07	22.66	21.76	21.77	21.81
2	21.86	21.78	22.27	23.21	22.06	21.89	23.98	22.05	22.44	21.74	21.75	21.76
3	21.83	21.77	22.19	23.65	22.37	21.89	23.63	22.06	22.31	21.72	21.73	21.74
4	21.81	21.76	22.15	23.03	22.65	21.91	23.10	22.01	22.41	21.72	21.72	21.72
5	21.80	22.10	22.14	23.13	22.62	21.92	22.72	21.96	23.40	21.73	21.73	21.70
6	21.78	22.89	22.19	23.27	24.39	24.59	22.49	21.93	22.87	21.71	21.73	21.69
7	21.77	22.59	22.21	22.85	24.36	23.76	22.37	21.90	22.47	21.70	21.71	21.68
8	21.75	22.36	22.21	22.59	23.41	22.94	22.29	21.87	22.24	21.69	21.70	22.20
9	21.74	22.20	22.18	22.47	22.89	22.57	22.22	21.85	22.12	21.68	21.68	22.85
10	21.73	22.09	22.16	22.36	22.65	22.39	22.16	21.83	22.02	21.75	21.67	22.40
11	21.72	22.02	22.32	22.25	22.51	22.27	22.12	21.81	21.96	21.91	21.67	22.14
12	21.71	23.43	22.32	22.21	22.40	22.20	22.14	21.79	21.93	21.84	21.68	22.00
13	21.70	26.49	22.27	22.19	22.32	22.13	23.31	21.78	21.92	21.78	21.74	21.93
14	21.71	23.58	22.43	22.17	22.26	22.09	24.85	21.76	21.89	21.74	21.73	21.88
15	21.78	22.71	22.75	22.15	22.21	22.06	23.91	21.75	21.85	21.71	21.72	21.84
16	21.78	22.41	22.64	22.12	22.15	22.08	23.09	21.78	21.86	21.68	21.71	21.81
17	21.75	22.27	22.74	22.09	22.11	22.11	22.69	21.81	21.86	21.67	21.69	22.84
18	21.74	22.17	22.74	22.25	22.08	22.09	22.48	21.79	21.83	21.68	21.68	23.95
19	21.73	25.01	22.64	22.64	22.05	22.23	22.35	21.87	21.82	21.67	21.67	22.78
20	21.72	26.07	22.51	22.54	22.04	22.28	22.27	21.89	21.79	21.67	21.67	22.32
21	21.70	23.49	22.39	22.41	22.03	22.34	22.22	21.84	21.77	21.66	21.72	22.12
22	21.69	22.75	22.34	22.33	22.01	22.34	22.17	21.81	21.76	21.67	21.76	22.02
23	21.68	22.45	22.36	22.24	21.98	22.28	22.14	21.78	21.94	21.74	21.74	21.96
24	21.68	22.33	22.50	22.19	21.97	22.22	22.13	21.76	21.98	21.76	21.72	21.92
25	21.67	22.26	22.63	22.15	21.96	22.18	22.08	21.75	21.94	21.74	21.70	21.88
26	21.68	22.17	22.54	22.14	21.94	22.13	22.18	21.82	21.98	21.75	21.68	21.86
27	21.77	22.12	22.44	22.19	21.92	22.11	22.26	22.10	21.92	21.90	21.67	21.84
28	21.89	22.15	22.35	22.17	21.91	22.09	22.21	22.27	21.86	21.95	21.66	21.86
29	21.88	22.50	22.29	22.14	21.90	22.06	22.15	22.21	21.81	21.87	21.84	21.88
30	21.86	22.49	22.32	22.13	---	22.04	22.10	22.07	21.77	21.81	21.87	21.85
31	21.83	---	22.35	22.07	---	22.09	---	22.58	---	21.78	21.85	---
MEAN	21.76	22.74	22.39	22.44	22.39	22.30	22.62	21.92	22.08	21.75	21.72	22.07
MAX	21.89	26.49	22.75	23.65	24.39	24.59	24.85	22.58	23.40	21.95	21.87	23.95
MIN	21.67	21.76	22.14	22.07	21.90	21.88	22.08	21.75	21.76	21.66	21.66	21.68

03204250 MUD RIVER AT PALERMO, WV—Continued



03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW, WV

LOCATION.--Lat 38°01'02", long 82°17'46", NAD 27, Wayne County, 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, and 7.5 mi east of Dunlow, and at mile 60.2.

DRAINAGE AREA.--38.5 mi^2.

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

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 710.00 ft above NGVD 29. Prior to Dec. 22, 1964, nonrecording gage at same site and datum.

REMARKS.--Records good, except those for periods of estimated daily discharges (ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 840 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 12	2100	*2,780	*13.71	Mar 6	0800	1,050	10.08
Nov 19	2100	1,930	12.27	Jun 25	2200	1,280	10.73
Feb 6	1300	1,080	10.18	Sep 17	unknown	(a)2,400	(b)13.18

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	14	62	50	e33	18	36	22	144	27	16	9.9
2	7.9	13	52	331	e32	18	114	23	80	23	12	7.7
3	5.8	12	45	273	144	17	166	25	52	19	9.8	5.9
4	5.7	11	47	162	139	18	131	20	69	17	16	5.3
5	6.1	69	61	294	160	20	95	19	108	18	43	4.5
6	5.5	121	81	238	849	619	73	17	75	14	28	3.8
7	4.5	90	78	146	433	227	61	16	50	13	16	3.6
8	4.1	57	70	105	196	129	53	14	38	11	11	202
9	3.8	40	61	86	132	90	45	13	60	9.2	9.2	266
10	3.8	32	64	65	103	67	39	13	36	9.3	7.9	90
11	3.7	28	88	55	81	55	36	12	30	20	7.0	47
12	3.7	795	77	50	67	47	46	12	124	10	11	31
13	3.9	948	70	47	57	40	291	11	198	9.1	19	22
14	10	167	91	43	51	36	431	11	84	7.7	10	17
15	25	104	112	41	46	34	253	9.8	55	6.7	8.0	13
16	14	77	104	36	39	42	144	12	60	5.8	6.6	11
17	9.5	61	148	34	35	40	99	12	48	5.4	5.7	925
18	8.4	53	129	93	32	38	75	8.2	36	5.5	5.2	824
19	7.5	1,250	116	120	31	43	61	27	38	5.2	4.8	145
20	6.8	621	92	93	30	40	52	21	34	4.8	4.4	75
21	6.4	183	74	75	30	49	47	11	26	4.3	19	49
22	6.6	113	71	65	26	45	42	9.0	24	11	17	37
23	6.4	80	77	52	24	42	38	7.3	46	28	8.1	29
24	6.3	68	103	49	24	41	34	6.3	40	20	6.1	24
25	6.2	56	105	42	23	38	30	6.8	375	9.8	5.5	20
26	6.7	48	88	44	21	35	36	12	482	48	4.7	17
27	22	43	73	47	20	33	32	66	135	69	4.4	15
28	27	60	62	42	18	32	27	85	74	38	4.2	17
29	19	82	54	e39	17	30	25	41	49	23	65	18
30	17	72	61	e37	---	30	23	40	36	20	29	14
31	16	---	53	36	---	32	---	400	---	16	17	---
TOTAL	287.4	5,368	2,469	2,890	2,893	2,045	2,635	1,002.4	2,706	527.8	430.6	2,948.7
MEAN	9.27	179	79.6	93.2	99.8	66.0	87.8	32.3	90.2	17.0	13.9	98.3
MAX	27	1,250	148	331	849	619	431	400	482	69	65	925
MIN	3.7	11	45	34	17	17	23	6.3	24	4.3	4.2	3.6
CFSM	0.24	4.65	2.07	2.42	2.59	1.71	2.28	0.84	2.34	0.44	0.36	2.55
IN.	0.28	5.19	2.39	2.79	2.80	1.98	2.55	0.97	2.61	0.51	0.42	2.85

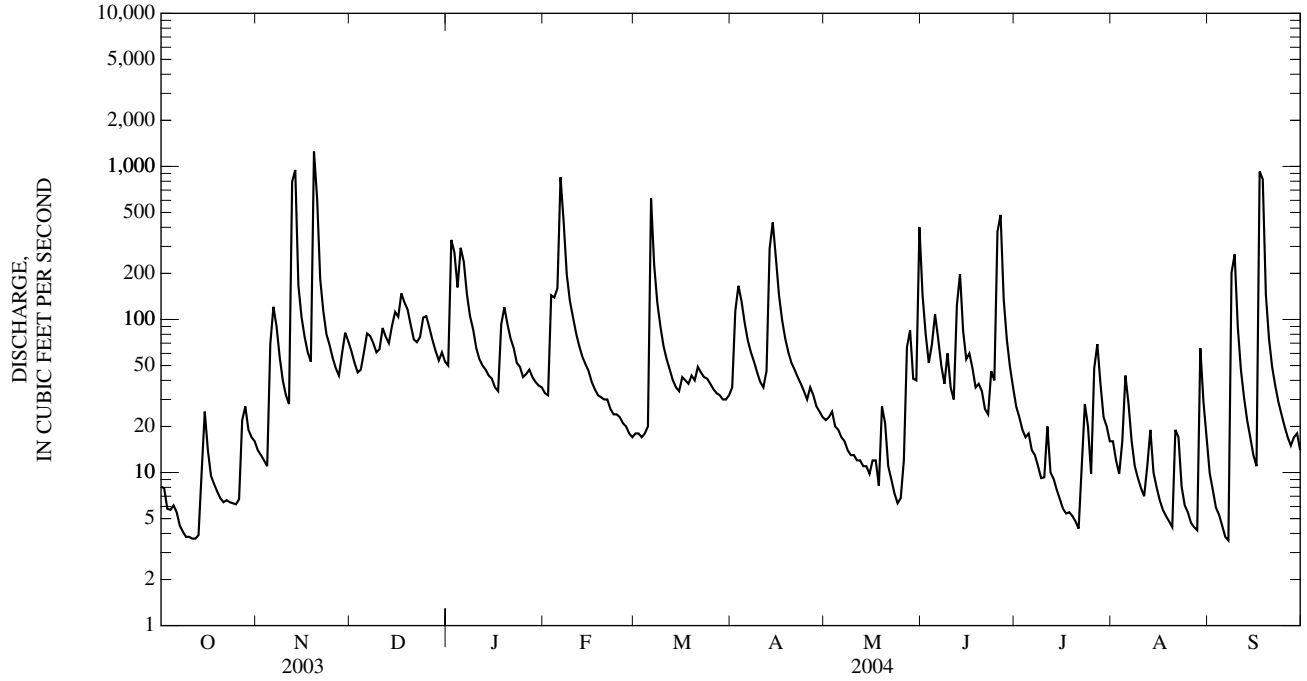
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2004, BY WATER YEAR (WY)

MEAN	11.2	32.7	64.9	76.4	100	107	90.4	67.4	39.6	15.9	11.9	11.4
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)

03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1965 - 2004	
ANNUAL TOTAL	32,859.3		26,202.9			
ANNUAL MEAN	90.0		71.6		52.1	
HIGHEST ANNUAL MEAN					98.3	1979
LOWEST ANNUAL MEAN					18.9	1988
HIGHEST DAILY MEAN	2,580	Feb 16	1,250	Nov 19	3,110	Dec 9, 1978
LOWEST DAILY MEAN	3.1	(c)	3.6	Sep 7	0.00	(d)
ANNUAL SEVEN-DAY MINIMUM	3.9	Oct 7	3.9	Oct 7	0.01	Sep 18, 1967
MAXIMUM PEAK FLOW			2,780	Nov 12	(f)5,040	Dec 9, 1978
MAXIMUM PEAK STAGE			13.71	Nov 12	15.84	Dec 9, 1978
INSTANTANEOUS LOW FLOW			3.3	Sep 7	0.00	(d)
ANNUAL RUNOFF (CFSM)	2.34		1.86		1.35	
ANNUAL RUNOFF (INCHES)	31.75		25.32		18.40	
10 PERCENT EXCEEDS	144		136		120	
50 PERCENT EXCEEDS	41		36		18	
90 PERCENT EXCEEDS	6.4		6.5		1.3	

a From rating curve extended above 840 ft^3/s on basis of slope-area measurements at gage heights 15.84 ft and 13.18 ft.
b From floodmarks.
c Aug. 27, 28.
d Sept. 15-17, 1998.



REVISIONS.--The peak discharges and annual maximum (*) reported for water years 1991-2003 have been revised as shown in the following table. They supercede values published in the reports for 1991-2003.

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 18, 1990	2030	1,280	10.74
Dec 30, 1990	2300	*2,000	*12.39
Dec 03, 1991	0030	*1,940	*12.28
Jun 14, 1992	1100	1,080	10.19
Feb 21, 1993	1800	1,130	10.32
Mar 04, 1993	2300	*1,560	*11.45
Mar 24, 1993	0930	870	9.57
Jan 07, 1994	1930	*2,390	*13.16
Feb 09, 1994	1630	1,260	10.69
Feb 11, 1994	1830	1,020	9.99
Feb 23, 1994	1200	1,330	10.87
Mar 02, 1994	2100	890	9.63
Mar 10, 1994	0430	1,190	10.48
Mar 28, 1994	0900	1,780	11.95
May 08, 1994	0500	2,010	12.41
May 19, 1995	0900	*1,400	*11.05
Jan 19, 1996	0900	1,290	10.75
May 06, 1996	0200	1,160	10.40
May 08, 1996	2100	1,340	10.89
May 16, 1996	0800	*1,820	*12.05
Mar 01, 1997	1830	887	9.62
Mar 03, 1997	1830	*2,140	*12.67
May 26, 1997	1100	846	9.50
Apr 19, 1998	1800	1,470	11.22
Jun 12, 1998	1700	*1,580	*11.49
Jan 09, 1999	1030	*1,290	*10.76
Jun 22, 2000	1000	*1,290	*10.75
Feb 17, 2001	0300	*744	*9.18
Mar 19, 2002	2300	995	9.93
Mar 20, 2002	1600	*1,340	*10.88
Mar 31, 2002	2300	1,210	10.55
04/28, 2002	2300	963	9.84
Feb 16, 2003	1500	2,840	13.79
Feb 23, 2003	0700	1,600	11.53
Jun 17, 2003	0100	*4,520	*15.45
Jun 18, 2003	0700	2,340	13.05
Sept 04, 2003	1000	963	9.84

03212750 TUG FORK AT WELCH, WV

LOCATION.--Lat 37°26'28", long 81°36'00", NAD 27, McDowell County, 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 mi^2.

PERIOD OF RECORD.--January 1985 to September 1993, October 1996 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,268.00 ft above NGVD 29.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 19	1400	*8,080	*15.17	May 31	1200	2,510	8.79
Apr 14	0300	3,620	10.15				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	93	334	337	287	215	549	478	783	252	129	78
2	109	92	308	1,030	286	222	811	495	509	252	145	76
3	106	90	291	1,070	349	215	831	513	417	339	144	76
4	105	88	313	741	344	208	674	465	437	410	125	75
5	103	97	378	1,280	359	204	564	432	440	290	229	75
6	100	305	437	1,320	863	579	490	400	385	251	202	74
7	98	319	415	929	1,150	524	446	373	345	232	146	75
8	96	206	378	762	763	444	411	351	314	218	128	150
9	96	161	346	674	621	390	379	331	290	207	118	146
10	97	141	352	591	551	350	353	316	272	198	107	102
11	95	136	416	535	499	323	337	324	266	195	106	87
12	93	134	387	504	457	303	367	295	483	201	126	81
13	92	152	363	478	426	285	2,010	285	670	195	132	78
14	161	133	374	454	401	273	2,470	286	435	182	112	75
15	216	137	356	441	378	263	1,330	263	419	176	107	75
16	127	142	346	407	353	297	961	259	410	169	112	75
17	111	137	440	391	333	290	762	254	371	165	102	175
18	105	135	477	628	321	280	640	238	343	161	99	293
19	101	3,690	443	749	309	297	562	233	335	157	96	138
20	97	1,510	396	602	301	290	516	228	315	151	94	107
21	94	792	357	534	294	305	474	215	289	145	97	94
22	93	562	347	501	281	289	440	211	273	149	95	87
23	91	449	362	462	267	278	424	201	286	150	92	85
24	89	404	510	435	261	270	433	197	258	143	95	82
25	88	352	537	412	252	263	389	202	397	133	98	80
26	89	320	468	393	243	254	965	222	606	152	89	79
27	108	300	425	376	239	248	974	510	387	240	87	77
28	110	347	395	349	230	241	696	705	326	173	85	251
29	105	389	371	328	222	232	584	472	294	141	84	167
30	99	359	389	322	---	237	522	403	269	132	82	117
31	96	---	355	296	---	316	---	1,450	---	132	80	---
TOTAL	3,283	12,172	12,066	18,331	11,640	9,185	21,364	11,607	11,624	6,091	3,543	3,230
MEAN	106	406	389	591	401	296	712	374	387	196	114	108
MAX	216	3,690	537	1,320	1,150	579	2,470	1,450	783	410	229	293
MIN	88	88	291	296	222	204	337	197	258	132	80	74
CFSM	0.61	2.33	2.24	3.40	2.31	1.70	4.09	2.15	2.23	1.13	0.66	0.62
IN.	0.70	2.60	2.58	3.92	2.49	1.96	4.57	2.48	2.49	1.30	0.76	0.69

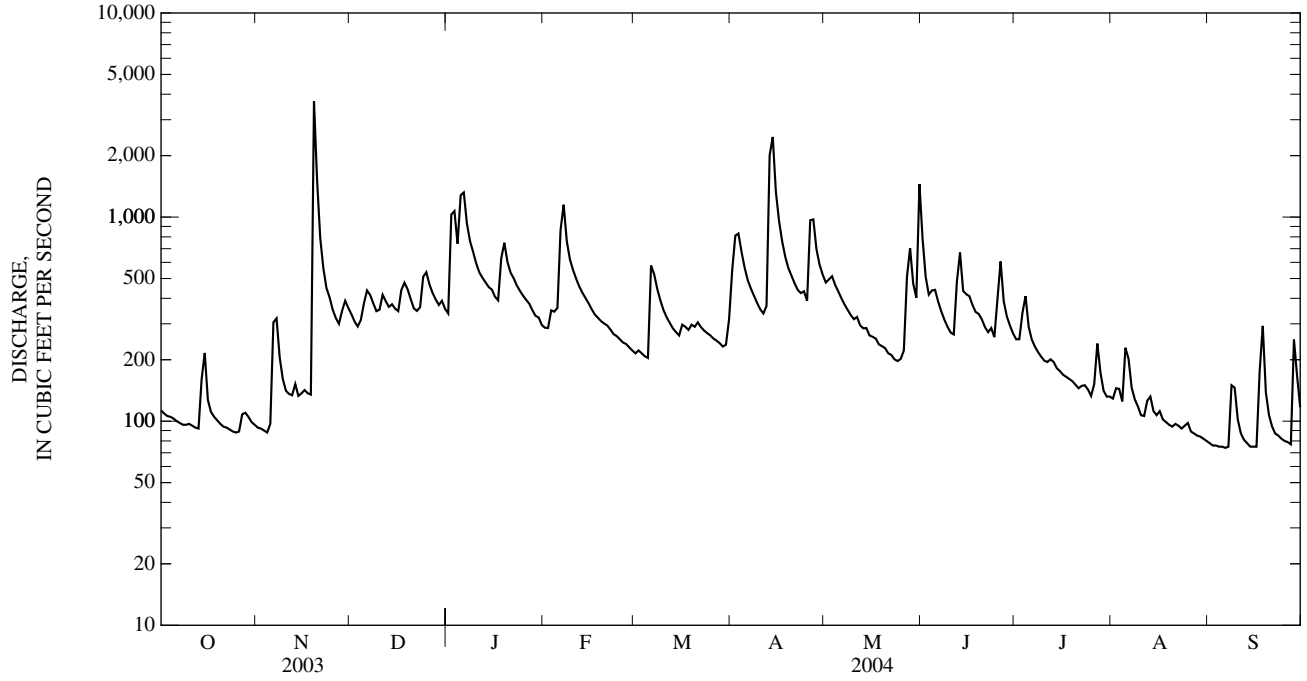
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2004, BY WATER YEAR (WY)

MEAN	66.5	104	152	199	320	363	393	319	204	149	109	72.9
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)

03212750 TUG FORK AT WELCH, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1985 - 2004	
ANNUAL TOTAL	126,091		124,136			
ANNUAL MEAN	345		339		206	
HIGHEST ANNUAL MEAN					339	2004
LOWEST ANNUAL MEAN					75.9	1988
HIGHEST DAILY MEAN	3,690	Nov 19	3,690	Nov 19	4,300	Apr 25, 1987
LOWEST DAILY MEAN	88	(a)	74	Sep 6	25	Oct 19, 1999
ANNUAL SEVEN-DAY MINIMUM	92	Oct 20	76	Sep 1	27	Oct 22, 1999
MAXIMUM PEAK FLOW			8,080	Nov 19	(b)13,100	May 2, 2002
MAXIMUM PEAK STAGE			15.17	Nov 19	(c)22.09	May 2, 2002
INSTANTANEOUS LOW FLOW			73	(d)	17	Jan 10, 2001
ANNUAL RUNOFF (CFSM)	1.99		1.95		1.18	
ANNUAL RUNOFF (INCHES)	26.96		26.54		16.08	
10 PERCENT EXCEEDS	563		586		422	
50 PERCENT EXCEEDS	265		289		130	
90 PERCENT EXCEEDS	122		93		40	

a Oct. 25, Nov. 4.
b From rating curve extended above 11,500 ft^3/s.
c From floodmarks.
d Sept. 6, 7.



03212980 DRY FORK AT BEARTOWN, WV

LOCATION.--Lat 37°23'43", long 81°48'10", NAD 27, McDowell County, 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 mi^2.

PERIOD OF RECORD.--February 1985 to September 1993, October 1996 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 1,056.00 ft above NGVD 29.

REMARKS.--Records good except for period of estimated daily discharge (doubtful gage-height record), which is fair.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 19	1600	*9,990	*11.98	Apr 13	1800	6,640	9.91
Jan 2	2100	5,030	8.96	May 28	1400	3,430	7.91
Jan 5	2000	4,230	8.46	May 31	1400	5,130	9.02

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	62	294	269	210	135	851	377	1,370	227	100	58
2	66	59	239	1,880	209	140	1,390	364	639	204	94	59
3	61	59	214	2,080	308	137	1,330	462	419	215	104	59
4	61	58	229	936	368	130	890	391	555	504	94	58
5	59	61	354	2,010	374	129	628	346	1,030	318	135	56
6	59	121	466	2,160	1,020	776	479	314	629	242	133	55
7	57	208	450	1,010	1,970	858	403	280	434	205	103	55
8	54	149	383	687	1,010	642	354	252	335	184	89	111
9	54	118	329	548	679	507	309	231	286	166	83	139
10	53	101	308	438	538	405	270	220	257	158	80	98
11	52	92	459	e370	444	340	250	236	249	152	78	75
12	55	92	449	334	378	305	271	249	494	148	133	66
13	53	108	375	310	337	262	3,180	213	703	156	125	62
14	87	103	366	294	306	236	3,940	211	549	149	106	62
15	144	99	365	291	286	226	1,600	183	796	136	93	57
16	94	100	355	266	256	255	950	170	1,030	130	85	58
17	76	96	459	251	236	270	676	190	648	124	84	174
18	70	95	567	483	222	259	520	191	451	126	80	462
19	65	4,770	501	918	208	242	433	176	411	121	76	199
20	61	1,710	403	648	203	223	387	183	435	115	70	130
21	59	632	324	492	200	246	356	160	348	110	66	103
22	59	393	303	416	183	227	318	188	284	116	69	85
23	56	291	338	353	172	215	303	171	293	121	69	74
24	55	252	527	321	170	206	339	154	284	109	66	69
25	52	225	628	296	163	198	302	245	501	118	64	72
26	53	195	497	278	155	190	1,130	230	1,310	113	66	71
27	73	182	403	272	152	181	1,430	963	622	202	57	72
28	83	222	348	254	144	176	756	1,970	408	194	58	741
29	81	357	310	234	137	171	535	1,040	319	136	61	488
30	73	342	316	240	---	174	434	583	263	118	64	237
31	66	---	284	217	---	283	---	2,490	---	108	60	---
TOTAL	2,065	11,352	11,843	19,556	11,038	8,744	25,014	13,433	16,352	5,225	2,645	4,105
MEAN	66.6	378	382	631	381	282	834	433	545	169	85.3	137
MAX	144	4,770	628	2,160	1,970	858	3,940	2,490	1,370	504	135	741
MIN	52	58	214	217	137	129	250	154	249	108	57	55
CFSM	0.32	1.81	1.83	3.02	1.82	1.35	3.99	2.07	2.61	0.81	0.41	0.65
IN.	0.37	2.02	2.11	3.48	1.96	1.56	4.45	2.39	2.91	0.93	0.47	0.73

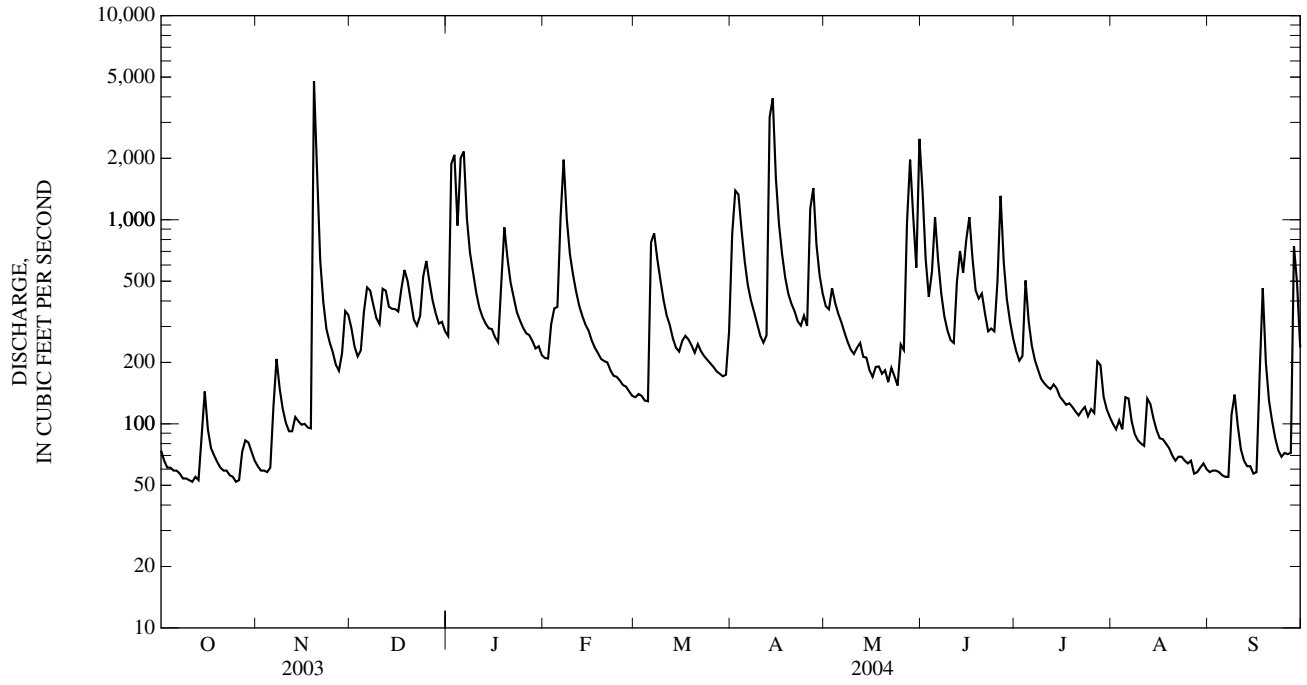
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2004, BY WATER YEAR (WY)

MEAN	60.2	108	190	248	412	449	458	319	204	129	90.8	60.9
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)

03212980 DRY FORK AT BEARTOWN, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1985 - 2004	
ANNUAL TOTAL	126,186		131,372			
ANNUAL MEAN	346		359		231	
HIGHEST ANNUAL MEAN					359	2004
LOWEST ANNUAL MEAN					75.0	1988
HIGHEST DAILY MEAN	6,580	Feb 16	4,770	Nov 19	6,580	Feb 16, 2003
LOWEST DAILY MEAN	52	(a)	52	(a)	15	(b)
ANNUAL SEVEN-DAY MINIMUM	54	Oct 7	54	Oct 7	17	Oct 26, 1999
MAXIMUM PEAK FLOW			9,990	Nov 19	(c)15,900	May 2, 2002
MAXIMUM PEAK STAGE			11.98	Nov 19	(d)15.21	May 2, 2002
INSTANTANEOUS LOW FLOW			46	Oct 26	13	(f)
ANNUAL RUNOFF (CFSM)	1.65		1.72		1.10	
ANNUAL RUNOFF (INCHES)	22.46		23.38		15.01	
10 PERCENT EXCEEDS	604		692		503	
50 PERCENT EXCEEDS	214		228		116	
90 PERCENT EXCEEDS	80		62		28	

a Oct. 11, 25.
b Oct. 29, 1987, and Sept. 3, 1988.
c From rating curve extended above 11,700 ft^3/s.
d From floodmarks.
e Estimated.
f Oct. 29, 30, 1987.



03213500 PANTHER CREEK NEAR PANTHER, WV

LOCATION.--Lat 37°26'42", long 81°52'15", NAD 27, McDowell County, 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 mi^2 .

PERIOD OF RECORD.--July 1946 to September 1986, October 2002 to current year.

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 with satellite telemeter. Elevation of gage is 1,050 ft, from topographic map.

REMARKS.--Records good except those for periods of estimated daily discharges (ice effect, faulty gage-height record), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 19	1030	*2,640	*9.04	Apr 13	2230	1,870	8.08
Jan 2	1600	975	6.63	May 31	0830	1,300	7.21
Jan 5	1630	807	6.29	Jun 4	2000	1,060	6.78
Feb 6	1630	864	6.41				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	6.9	55	33	e32	12	126	40	229	24	4.1	2.0
2	5.1	6.6	39	396	e28	14	311	38	88	21	4.3	1.9
3	4.4	6.4	31	317	42	13	232	35	48	26	4.3	1.8
4	4.3	6.1	33	151	47	12	143	28	233	36	3.5	1.8
5	4.1	7.0	53	401	63	13	90	25	407	36	10	1.7
6	3.8	16	101	324	454	398	63	22	169	16	9.8	1.6
7	3.7	29	95	149	411	213	52	18	86	10	5.5	1.8
8	3.4	22	67	90	193	116	44	16	50	8.6	4.1	12
9	3.3	16	50	67	115	78	37	14	36	7.2	3.5	17
10	3.2	14	47	47	81	56	30	12	28	8.9	3.2	7.4
11	3.2	12	63	38	60	45	28	11	25	9.6	3.1	4.6
12	3.1	13	63	34	47	38	34	11	42	7.7	4.1	3.6
13	3.1	40	53	33	39	31	682	14	40	e5.2	4.4	3.3
14	5.1	32	51	33	35	27	772	11	31	e3.7	3.3	4.5
15	20	27	46	36	31	25	260	9.2	47	e3.4	2.9	3.3
16	9.3	23	45	31	26	46	142	8.3	36	e3.0	2.7	2.9
17	7.1	21	89	31	23	80	92	9.5	30	e2.7	2.5	57
18	6.4	20	115	151	21	75	65	29	24	e2.5	2.4	66
19	5.6	1,070	85	230	20	61	50	17	33	e2.6	2.3	18
20	5.2	283	58	124	20	50	44	16	42	e2.5	2.2	9.7
21	4.9	97	43	78	21	55	39	12	39	e2.1	3.1	6.8
22	4.7	52	42	58	17	49	33	10	29	e2.7	3.2	5.5
23	4.5	35	67	44	15	43	30	9.4	36	e5.8	2.5	4.7
24	4.4	36	128	38	15	39	41	9.9	32	e4.2	2.3	4.1
25	4.3	39	124	33	15	34	36	8.5	49	e3.0	2.7	3.7
26	4.3	38	82	33	14	30	134	12	125	e4.2	2.4	3.4
27	9.0	33	58	38	14	28	196	86	80	e5.2	2.2	3.2
28	13	49	45	40	13	26	109	265	53	e6.2	2.0	68
29	11	105	38	42	12	24	68	131	39	4.7	2.0	39
30	9.0	82	40	42	---	24	49	244	30	5.5	2.3	18
31	7.7	---	34	36	---	40	---	718	---	4.8	2.2	---
TOTAL	185.8	2,237.0	1,940	3,198	1,924	1,795	4,032	1,889.8	2,236	285.0	109.1	378.3
MEAN	5.99	74.6	62.6	103	66.3	57.9	134	61.0	74.5	9.19	3.52	12.6
MAX	20	1,070	128	401	454	398	772	718	407	36	10	68
MIN	3.1	6.1	31	31	12	12	28	8.3	24	2.1	2.0	1.6
CFSM	0.19	2.41	2.02	3.33	2.14	1.87	4.34	1.97	2.40	0.30	0.11	0.41
IN.	0.22	2.68	2.33	3.84	2.31	2.15	4.84	2.27	2.68	0.34	0.13	0.45

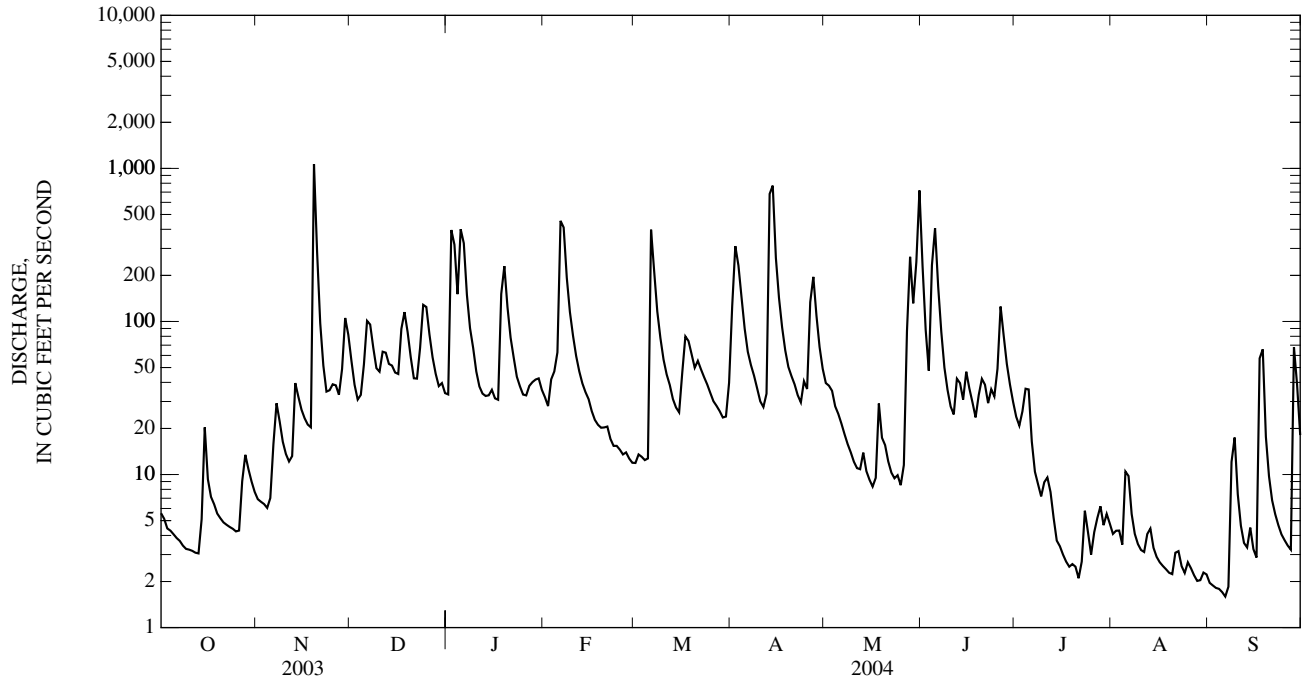
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2004, BY WATER YEAR (WY)

MEAN	7.33	19.2	36.8	56.4	74.0	82.2	68.0	39.3	19.5	10.5	10.9	5.93
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)

03213500 PANTHER CREEK NEAR PANTHER, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1946 - 2004	
ANNUAL TOTAL	22,393.3		20,210.0			
ANNUAL MEAN	61.4		55.2		35.1	
HIGHEST ANNUAL MEAN					55.8	1979
LOWEST ANNUAL MEAN					15.1	1969
HIGHEST DAILY MEAN	2,100	Feb 16	1,070	Nov 19	2,300	Apr 4, 1977
LOWEST DAILY MEAN	3.1	(a)	1.6	Sep 6	0.00	(b)
ANNUAL SEVEN-DAY MINIMUM	3.3	Oct 7	1.8	Sep 1	0.01	Sep 16, 1946
MAXIMUM PEAK FLOW			2,640	Nov 19	(c)14,700	May 2, 2002
MAXIMUM PEAK STAGE			9.04	Nov 19	(d)16.57	May 2, 2002
INSTANTANEOUS LOW FLOW			1.5	Sep 6	0.00	(b)
ANNUAL RUNOFF (CFSM)	1.98		1.78		1.13	
ANNUAL RUNOFF (INCHES)	26.87		24.25		15.40	
10 PERCENT EXCEEDS	109		124		80	
50 PERCENT EXCEEDS	25		28		12	
90 PERCENT EXCEEDS	6.0		3.2		1.2	

a Oct. 12, 13.
b Several days in September 1946, August and September, 1955.
c From rating curve extended above 2,800 ft^3/s on basis of slope-area measurement.
d From floodmarks.
e Estimated.



03213700 TUG FORK AT WILLIAMSON, WV

LOCATION.--Lat 37°40'23", long 82°16'49", NAD 27, 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 mi^2.

PERIOD OF RECORD.--October 1967 to current year. Gage-height records collected in this vicinity since 1926 are contained in reports of National Weather Service.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 620.52 ft above NGVD 29. Ohio River Datum is 620.96 ft. Formerly published as 620.90 ft Ohio River Datum 1969 to 1993. Prior to Jan. 21, 1969, at datum 619.66 ft above NGVD 29.

REMARKS.--Records good except those for period of estimated daily discharges (no gage-height record), which are poor.

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, from readings by National Weather Service.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 20	0300	*23,800	*29.05	Apr 14	0900	20,400	26.34
Jan 3	0600	11,600	18.57	May 31	1400	16,700	23.21
Jan 6	0700	10,000	16.91	Jun 5	0500	9,010	15.85
Feb 7	0300	11,000	17.88				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	353	357	1,720	1,360	1,130	755	1,790	1,810	8,720	921	814	298
2	349	339	1,420	3,560	1,120	757	4,650	1,670	3,540	842	616	259
3	329	326	1,220	9,480	1,350	773	5,770	1,770	2,320	904	596	241
4	314	317	1,140	4,850	1,660	753	4,310	1,650	3,650	1,150	556	234
5	307	353	1,350	4,060	2,020	745	3,150	1,470	7,350	1,350	1,370	224
6	294	823	2,010	8,520	6,420	4,900	2,410	1,350	3,900	977	1,510	212
7	282	1,410	2,310	5,050	9,740	5,640	2,040	1,230	2,520	824	916	213
8	270	1,150	1,980	3,480	5,600	3,890	1,810	1,120	1,820	775	647	694
9	260	819	1,640	2,790	3,700	2,930	1,600	1,040	1,450	689	522	1,570
10	256	654	1,440	2,290	2,890	2,320	1,400	980	1,250	675	456	971
11	255	565	1,680	1,880	2,400	1,890	1,290	937	1,190	721	413	614
12	251	557	1,860	1,690	2,030	1,650	1,300	938	1,890	631	468	447
13	242	751	1,690	1,590	1,790	1,450	4,070	903	3,690	649	594	369
14	289	816	1,660	1,510	1,600	1,300	17,600	865	2,510	631	519	328
15	559	725	1,700	1,480	1,470	1,230	8,790	839	2,210	580	446	307
16	721	701	1,640	1,400	1,360	1,300	5,120	791	2,410	538	391	279
17	492	675	1,850	1,300	1,230	1,810	3,720	745	2,180	522	366	2,100
18	407	650	2,400	1,900	1,170	1,760	2,920	763	1,680	503	352	4,690
19	371	7,650	2,400	4,720	1,100	1,690	2,430	788	1,510	484	333	1,930
20	344	15,100	2,010	3,580	1,060	1,580	2,110	781	1,500	465	320	1,020
21	325	4,280	1,650	2,560	1,050	1,690	1,930	732	1,310	446	363	725
22	310	2,560	1,480	2,090	996	1,650	1,720	671	1,130	466	373	586
23	300	1,830	1,620	1,790	928	1,490	1,580	680	1,200	626	331	504
24	292	1,500	2,280	1,580	901	e1,400	1,660	659	1,180	549	302	448
25	286	1,490	2,960	1,470	882	e1,320	1,570	621	1,190	477	292	414
26	282	1,320	2,550	1,460	841	e1,250	1,910	767	2,530	583	319	390
27	341	1,190	2,040	1,430	837	e1,200	5,100	1,500	2,430	1,200	288	375
28	459	1,230	1,730	1,470	823	e1,120	3,590	3,240	1,600	994	268	416
29	473	2,100	1,520	1,390	779	e1,080	2,570	3,980	1,250	735	314	1,860
30	423	2,110	1,530	1,350	---	e1,040	2,090	2,670	1,050	730	467	993
31	387	---	1,480	1,240	---	1,070	---	13,900	---	715	400	---
TOTAL	10,823	54,348	55,960	84,320	58,877	53,433	102,000	51,860	72,160	22,352	15,922	23,711
MEAN	349	1,812	1,805	2,720	2,030	1,724	3,400	1,673	2,405	721	514	790
MAX	721	15,100	2,960	9,480	9,740	5,640	17,600	13,900	8,720	1,350	1,510	4,690
MIN	242	317	1,140	1,240	779	745	1,290	621	1,050	446	268	212
CFSM	0.37	1.94	1.93	2.91	2.17	1.84	3.63	1.79	2.57	0.77	0.55	0.84
IN.	0.43	2.16	2.22	3.35	2.34	2.12	4.05	2.06	2.87	0.89	0.63	0.94

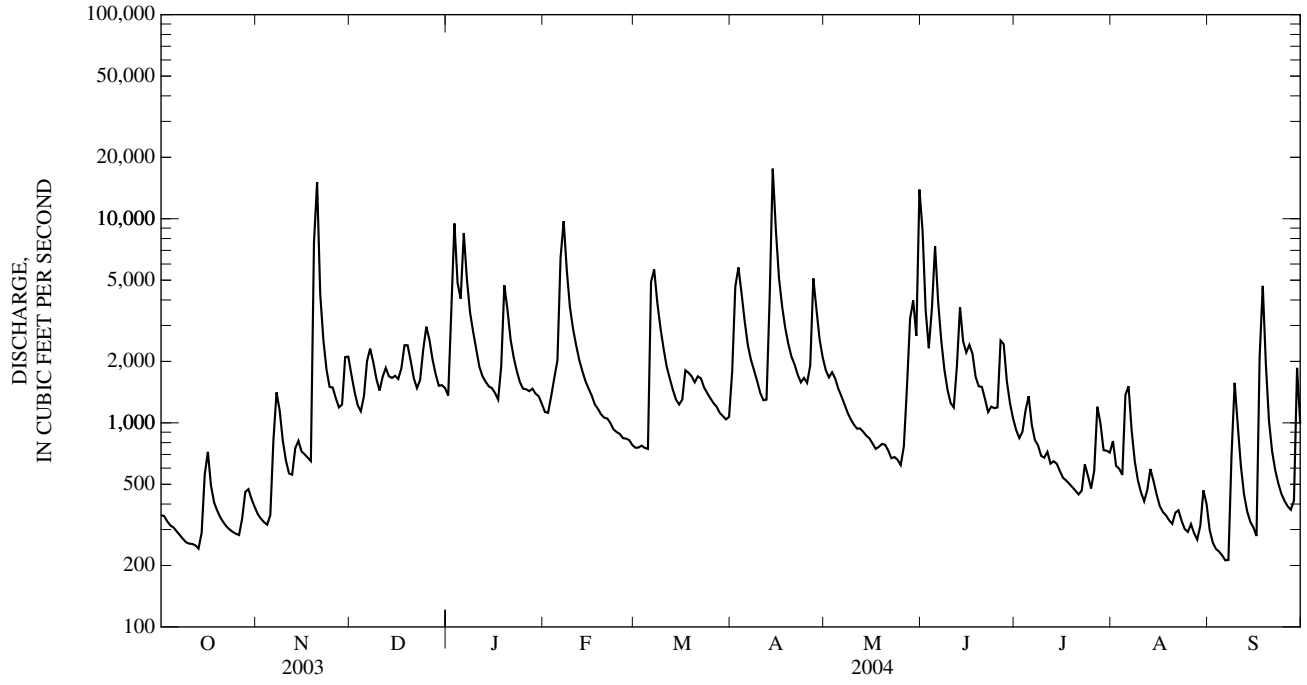
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2004, BY WATER YEAR (WY)

MEAN	349	627	1,023	1,582	2,029	2,156	2,058	1,648	940	538	429	283
MAX	2,059	2,363	3,631	4,515	5,198	5,328	5,745	4,318	3,263	1,503	1,419	839
(WY)	(1990)	(1978)	(1973)	(1974)	(2003)	(1975)	(1987)	(1984)	(1979)	(2001)	(1972)	(1989)
MIN	71.7	113	197	279	396	448	506	429	156	119	105	85.7
(WY)	(1970)	(1970)	(2002)	(1981)	(2002)	(1988)	(1986)	(1976)	(1988)	(1988)	(1988)	(1999)

03213700 TUG FORK AT WILLIAMSON, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1968 - 2004	
ANNUAL TOTAL	634,522		605,766			
ANNUAL MEAN	1,738		1,655		1,134	
HIGHEST ANNUAL MEAN					1,729	1979
LOWEST ANNUAL MEAN					353	1988
HIGHEST DAILY MEAN	28,800	Feb 16	17,600	Apr 14	74,000	Apr 5, 1977
LOWEST DAILY MEAN	242	Oct 13	212	Sep 6	56	Sep 19, 1999
ANNUAL SEVEN-DAY MINIMUM	259	Oct 7	240	Sep 1	60	Sep 22, 1999
MAXIMUM PEAK FLOW			23,800	Nov 20	(a)94,000	Apr 5, 1977
MAXIMUM PEAK STAGE			29.05	Nov 20	(b)52.56	Apr 5, 1977
INSTANTANEOUS LOW FLOW			202	Sep 7	52	Sep 27, 1999
ANNUAL RUNOFF (CFSM)	1.86		1.77		1.21	
ANNUAL RUNOFF (INCHES)	25.22		24.08		16.46	
10 PERCENT EXCEEDS	3,170		3,550		2,500	
50 PERCENT EXCEEDS	1,150		1,210		608	
90 PERCENT EXCEEDS	392		329		141	

a From rating curve extended above 18,000 ft^3/s.
b From floodmarks.
e Estimated.



03214500 TUG FORK AT KERMIT, WV

LOCATION.--Lat 37°50'14", long 82°24'32", NAD 27, Mingo County, Hydrologic Unit 05070201, behind fire station, at Kermit, 0.8 mi downstream from Wolf Creek, and at mile 34.9.

DRAINAGE AREA.--1,280 mi^2.

PERIOD OF RECORD.--October 1915 to September 1917, October 1917 to December 1920 (gage heights only), January 1929 to September 1934, October 1934 to September 1985 (estimated annual maximum discharge only), February 1985 to current year.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 574.74 ft above NGVD 29.

REMARKS.--Records good except those for period of estimated daily discharges (no gage-height record), which are poor. Records published as "near Kermit" at different site and datum July 1934 to September 1985.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of unknown date prior to 1915, was about 46.7 ft; Jan. 29, 1918, was about 38.8 ft; Jan. 30, 1957, was about 45 ft; Mar. 13, 1963, was about 46 ft; Apr. 6, 1977, was 53.7 ft.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 20	1130	21,500	32.04	Apr 14	1930	20,300	30.66
Jan 3	1230	13,300	22.70	May 31	1430	*28,800	*39.73
Jan 6	1530	11,000	19.95	Jun 5	0930	12,400	21.56
Feb 7	0730	14,900	24.57	Sep 18	0130	14,800	24.43

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	440	408	2,250	1,780	1,420	903	1,720	2,080	18,700	1,170	1,290	458
2	434	382	1,880	4,490	1,380	899	4,370	1,910	6,340	1,040	970	393
3	406	366	1,590	12,000	1,970	892	7,390	1,920	3,790	978	756	360
4	394	349	1,450	7,560	2,430	887	5,910	1,890	4,220	1,280	785	348
5	384	411	1,650	5,430	2,820	864	4,250	1,670	11,200	1,600	1,780	350
6	368	1,040	2,460	9,480	9,550	6,410	3,220	1,540	6,460	1,260	2,640	326
7	358	1,920	2,940	7,240	14,100	8,440	2,670	1,420	3,840	1,040	1,590	323
8	345	1,580	2,650	4,650	8,830	5,000	2,340	1,320	2,720	1,060	1,090	1,160
9	331	1,140	2,220	3,640	5,330	3,570	2,080	1,230	2,150	863	e840	2,600
10	320	871	1,960	3,020	3,990	2,840	1,840	1,170	1,790	761	e700	1,770
11	321	714	2,120	2,490	3,280	2,350	1,650	1,140	1,660	956	e610	1,100
12	317	802	2,290	2,210	2,780	2,050	1,670	1,090	2,420	884	e670	780
13	310	1,830	2,170	2,070	2,430	1,820	3,500	1,070	5,810	795	e850	617
14	323	1,300	2,230	1,940	2,190	1,620	17,100	1,030	3,840	780	e780	561
15	574	1,050	2,440	1,880	2,000	1,500	14,700	997	2,730	695	e640	483
16	836	944	2,340	1,780	1,830	1,500	7,220	962	2,980	624	e560	446
17	626	877	2,540	1,640	1,650	1,880	4,860	901	2,800	604	e490	4,960
18	484	819	2,980	2,100	1,530	2,000	3,720	878	2,260	605	e470	11,000
19	423	6,130	3,160	5,130	1,430	1,940	3,060	946	1,940	572	e450	3,980
20	389	19,300	2,750	4,810	1,370	1,820	2,640	958	1,880	534	446	2,060
21	365	7,890	2,280	3,430	1,340	1,900	2,400	889	1,690	507	459	1,400
22	344	3,570	2,010	2,770	1,270	1,920	2,170	815	1,450	545	543	1,090
23	325	2,500	2,090	2,370	1,180	1,790	1,970	776	1,460	956	470	909
24	319	2,010	2,870	2,080	1,130	1,670	1,930	782	1,470	796	427	793
25	314	1,890	3,680	1,900	1,090	1,580	1,930	764	1,550	601	398	713
26	309	1,690	3,400	1,880	1,030	1,480	1,910	929	2,540	729	404	654
27	382	1,520	2,730	1,830	1,010	1,400	4,490	2,120	3,220	2,250	405	610
28	493	1,480	2,300	1,830	993	1,340	4,190	3,040	2,150	1,660	395	651
29	552	2,260	2,010	1,740	941	1,280	2,940	4,370	1,640	1,140	510	1,590
30	510	2,620	2,000	1,690	---	1,250	2,380	3,490	1,360	967	499	1,510
31	450	---	1,950	1,570	---	1,380	---	23,400	---	947	665	---
TOTAL	12,746	69,663	73,390	108,430	82,294	66,175	122,220	67,497	108,060	29,199	23,582	43,995
MEAN	411	2,322	2,367	3,498	2,838	2,135	4,074	2,177	3,602	942	761	1,466
MAX	836	19,300	3,680	12,000	14,100	8,440	17,100	23,400	18,700	2,250	2,640	11,000
MIN	309	349	1,450	1,570	941	864	1,650	764	1,360	507	395	323
CFSM	0.32	1.81	1.85	2.73	2.22	1.67	3.18	1.70	2.81	0.74	0.59	1.15
IN.	0.37	2.02	2.13	3.15	2.39	1.92	3.55	1.96	3.14	0.85	0.69	1.28

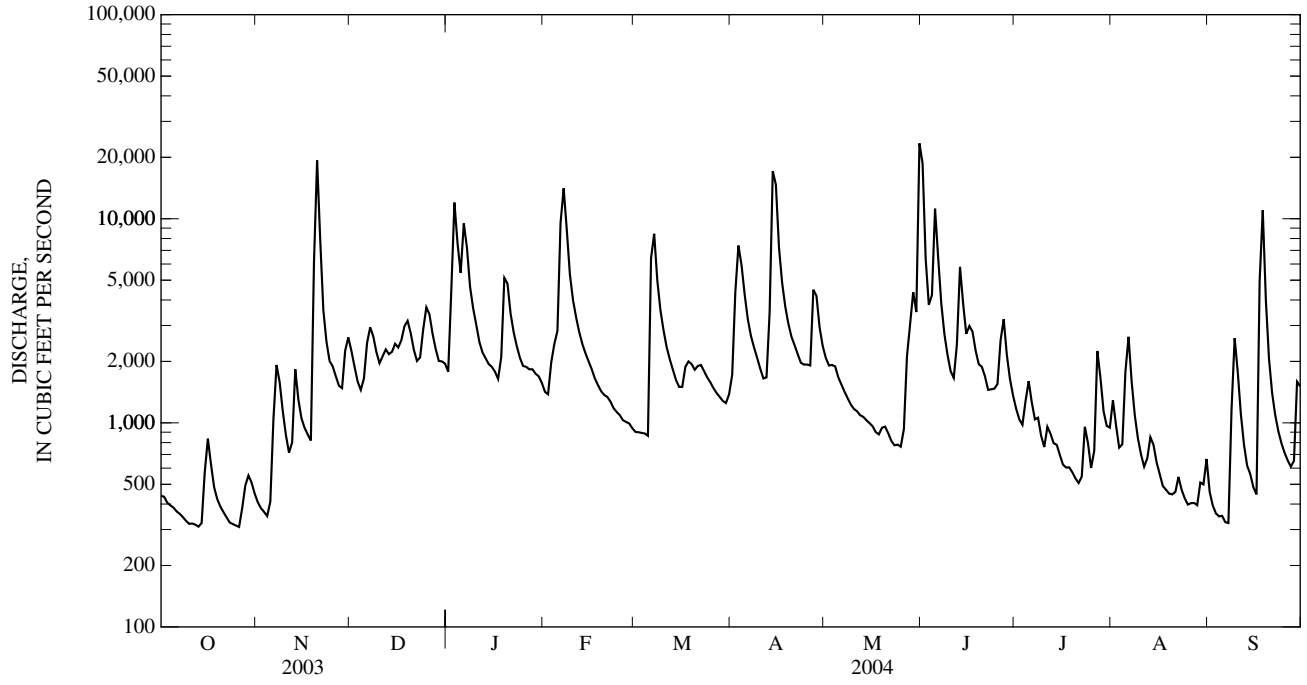
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2004, BY WATER YEAR (WY)

MEAN	362	701	1,321	1,986	2,917	3,425	2,513	1,922	1,069	666	534	336
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)

03214500 TUG FORK AT KERMIT, WV—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1916 - 2004	
ANNUAL TOTAL	827,582		807,251			
ANNUAL MEAN	2,267		2,206		1,477	
HIGHEST ANNUAL MEAN					2,277	1994
LOWEST ANNUAL MEAN					476	1988
HIGHEST DAILY MEAN	31,800	Feb 17	23,400	May 31	34,300	Mar 5, 1917
LOWEST DAILY MEAN	309	Oct 26	309	Oct 26	14	Oct 23, 1930
ANNUAL SEVEN-DAY MINIMUM	324	Oct 8	324	Oct 8	18	Oct 5, 1930
MAXIMUM PEAK FLOW			28,800	May 31	(a)35,300	Feb 17, 2003
MAXIMUM PEAK STAGE			39.73	May 31	46.29	Feb 17, 2003
INSTANTANEOUS LOW FLOW			293	Sep 7	(b)69	Aug 19, 1988
ANNUAL RUNOFF (CFSM)	1.77		1.72		1.15	
ANNUAL RUNOFF (INCHES)	24.05		23.46		15.67	
10 PERCENT EXCEEDS	3,990		4,290		3,420	
50 PERCENT EXCEEDS	1,480		1,580		710	
90 PERCENT EXCEEDS	463		426		143	

a From rating curve extended above 34,000 ft^3/s.
b Instantaneous low flow prior to 1985, undetermined.
e Estimated.



As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations for current water year, including crest-stage stations, are presented in the following tables. Discharge measurements made at partial-record stations, miscellaneous sites (denoted by 15-digit site identifier), and crest-stage stations are given in separate tables.

Crest-stage partial-record stations

A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Maximum stage at partial-record stations

Station name and number	Location	Drainage area (mi^2)	Period of record	Water year 2004 maximum		Period of record maximum		
				Date	Gage height (ft)	Date	Gage height (ft)	Discharge (ft^3/s)
POTOMAC RIVER BASIN								
South Branch Potomac River near Moorefield, WV (01608070)	Lat 39°06'14", long 78°57'37", Hardy County, Hydrologic Unit 02070001, on left bank, 124 ft upstream from concrete highway bridge on US Route 220, 500 ft below Fort Run, 2.0 mi north of Moorefield, and at mile 55.4. Datum of gage is 765.00 ft above NGVD 29.	1,241	1994-2002# 2003-2004*	11-20-03	18.41	09-07-96	25.04	(a)38,000
MONONGAHELA RIVER BASIN								
Buckhannon River at Buckhannon, WV (03052450)	Lat 39°00'19", long 80°12'34", Upshur County, Hydrologic Unit 05020001. Datum of gage is 1,410.00 ft above NGVD 29.	217	2000-2004 *	02-07-04	25.06	02-19-00	26.22	(b)
Tygart Valley River at Colfax, WV (03057000)	Lat 39°26'06", long 80°07'58", Marion County, Hydrologic Unit 05020001, on right bank at highway bridge at Colfax, 300 ft upstream from Guyses Run, and at mile 6.2. Records include flow of Guyses Run. Datum of gage is 856.27 ft above NGVD 29, supplementary adjustment of 1944.	1,363	1939-1995# 1996-2004*	11-19-03	15.09	03-05-63 11-05-85	(c)19.77 ---	--- (e)31,700
West Fork River at Walkersville, WV (03057300)	Lat 38°52'07", long 80°27'29", Lewis County, 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 95.8. Datum of gage is 1070.64 ft above NGVD 29.	28.8	1984-1992# 1993-2004*	11-19-03	14.97	08-18-00 11-04-85	(d)20.60 ---	--- 3,390

Maximum stage at partial-record stations --Continued

Station name and number	Location	Drainage area (mi^2)	Period of record	Water year 2004 maximum		Period of record maximum		
				Date	Gage height (ft)	Date	Gage height (ft)	Discharge (ft^3/s)
MONONGAHELA RIVER BASIN--Continued								
West Fork River at Butcherville, WV (03058500)	Lat 39°05'26", long 80°28'04", Lewis County, 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. Datum of gage is 993.0 ft above NGVD 29.	181	1915-2000# 2001-2004*	11-19-03	(f)10.07	06-25-50	16.81	18,000
OHIO RIVER MAIN STEM								
Ohio River near Marietta, OH (03150800)	Lat 39°23'21", long 81°29'03", Washington County, Hydrologic Unit 05030202, on right bank, 1.5 mi southwest of Marietta, 2.0 mi downstream from Muskingum River, and at mile 174.3 measured downstream from Pittsburgh, Pa. Datum of gage is 567.12 ft, Sandy Hook datum.	35,620	1969-2004*	09-19-04	42.37	01-21-96	39.32	(b)
LITTLE KANAWHA RIVER BASIN								
Little Kanawha River below Burnsville Dam, WV (03151520)	Lat 38°50'41", long 80°37'45", Braxton County, Hydrologic Unit 05030203, on right bank 2,600 ft downstream from Burnsville Dam, 1.6 mi southeast of Burnsville, and at mile 126. Datum of gage is 750.00 ft above NGVD 29, (U.S. Army Corps of Engineers Bench Mark).	163	1976-1982# 1983-1986* 1987-1993# 1994-2004*	11-19-03	8.81	11-04-85 08-06-96	(g)11.78 ---	--- 2,540
Little Kanawha River at Burnsville, WV (03151600)	Lat 38°51'54", long 80°40'35", Braxton County, Hydrologic Unit 05030203, on right bank, 70 ft upstream from Buffalo Creek, 1.0 mi northwest of Burnsville, 1.4 mi downstream from Oil Creek, 1.8 mi downstream from Saltlick Creek, and 1.9 mi downstream from Burnsville, and at mile 122. Datum of gage is 738.66 ft above NGVD 29.	248	1974-1978# 1979-1983* 1991-2004*	11-19-03	(f)15.74	06-02-74	16.32	6,890
Little Kanawha River at Glenville WV (03152000)	Lat 38°56'02", long 80°50'21", Gilmer County, 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. Datum of gage is 697.79 ft above NGVD 29.	387	1915-1922# 1929-1983# 1984-2000# 2001-2004*	11-19-03	30.37	11-05-85	(h)36.46	26,900
Little Kanawha River at Grantsville, WV (03153500)	Lat 38°55'19", long 81°05'52", Calhoun County, Hydrologic Unit 05030203, on left bank 1,000 ft downstream from bridge on State Highway 16 at Grantsville, 1,200 ft downstream from Philip Run, and at mile 79.7. Datum of gage is 652.83 ft above NGVD 29, adjustment of 1912.	913	1929-1978# 1979-2004*	11-20-03	39.42	03-07-67	(h)43.90	35,100

Maximum stage at partial-record stations --Continued

Station name and number	Location	Drainage area (mi^2)	Period of record	Water year 2004 maximum		Period of record maximum		
				Date	Gage height (ft)	Date	Gage height (ft)	Discharge (ft^3/s)
LITTLE KANAWHA RIVER BASIN--Continued								
West Fork Little Kanawha River at Rocksdale, WV (03154000)	Lat 38°50'39", long 81°13'22", Calhoun County, Hydrologic Unit 05030203, on right bank on State Route 11, 850 ft downstream from Henry Fork at Rocksdale, 9.0 mi southwest of Grantsville, and at mile 14.5. Datum of gage is 657.85 ft above NGVD 29, adjustment of 1912.	205	1929-1931# 1938-1975# 1976-2004*	11-19-03	26.63	03-02-97 04-16-39	(h)31.55 ---	--- 20,200
KANAWHA RIVER BASIN								
New River at Hinton, WV (03184500)	Lat 37°40'13", long 80°53'34", Summers County, Hydrologic Unit 05050004, on right bank at Hinton, 0.2 mi upstream from Madam Creek, 1.5 mi downstream from Greenbrier River, at New River mile 62.0 and Kanawha River mile 160.0. Datum of gage is 1,355.18 ft above NGVD 29.	6,256	1936-2003# 2004*	11-20-03	9.05	08-15-40	18.97	246,000
Gauley River at Camden on Gauley, WV (03187000)	Lat 38°21'57", long 80°36'04", Webster County, Hydrologic Unit 05050005, on right bank in 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. Datum of gage is 2003.28 ft above NGVD 29, adjustment of 1912.	236	1909-1916# 1930-1975# 1976-2004*	11-19-03	22.65	07-04-32	27.38	42,500
Gauley River below Summersville Dam, WV (03189600)	Lat 38°12'54", long 80°53'18", Nicholas County, Hydrologic Unit 05050005, on right bank 0.4 mi downstream from Summersville Dam, 5.0 mi southwest of Summersville, and at mile 35.3. Datum of gage is 1,350.00 ft above mean sea level (levels by U.S. Army Corps of Engineers).	806	1966-1982# 1983-1986* 1987-2003# 2004*	11-20-03 05-29-04	18.50 18.50	08-24-89	19.39	18,200
Elk River at Sutton, WV (03195500)	Lat 38°39'47", 80°42'35", Braxton County, Hydrologic Unit 05050007, on left bank, 150 ft upstream from highway bridge at Sutton, 0.5 mi upstream from Granny Creek, 0.9 mi downstream from Sutton Dam, 2.5 mi downstream from Wolf Creek, and at mile 102.1. Datum of gage is 800.00 ft above NGVD 29.	542	1939-1992# 1993-2004*	02-07-04	20.89	01-29-57	39.30	34,200
Elk River near Frametown, WV (03196600)	Lat 38°35'32", long 80°53'05", Braxton County, 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. Records include flow of Birch River. Datum of gage is 775.51 ft above NGVD 29.	751	1959-1981# 1982-2004*	11-19-03	15.45	07-31-96	20.39	30,300

Maximum stage at partial-record stations --Continued

Station name and number	Location	Drainage area (mi^2)	Period of record	Water year 2004 maximum		Period of record maximum		
				Date	Gage height (ft)	Date	Gage height (ft)	Discharge (ft^3/s)
			KANAWHA RIVER BASIN--Continued					
Elk River at Clay, WV (03196800)	Lat 38°27'38", long 81°05'16", Clay County, Hydrologic Unit 05050007, on upstream side of right bank of highway bridge in the town of Clay, 0.9 mi downstream from Buffalo Creek, and 2.1 mi downstream from Lower Two Run Creek, and at mile 52.4. Datum of gage is 677.46 ft above NGVD 29.	992	1959-1978# 1979-1998* 1999-2002(h) 2003-2004*	11-19-03	20.96	03-15-67	22.80	48,000
			OHIO RIVER MAIN STEM					
Ohio River at Point Pleasant, WV (03201500)	Lat 38°50'25", long 82°08'30", Mason County, Hydrologic Unit 05030202, on left bank at Point Pleasant, 1,200 ft upstream from Kanawha River, and at mile 265.6, measured downstream from Pittsburgh, Pa. Datum of gage is 514.10 ft, Sandy Hook datum.	52,740	1940-1977# 1978-2004*	09-19-04 or 09-20-04	>44.64	04-16-48	55.00	(b)
			GUYANDOTTE RIVER BASIN					
Guyandotte River below R. D. Bailey Dam, WV (03202915)	Lat 37°35'53", long 81°49'46", Mingo County, Hydrologic Unit 05070101, on right bank, 500 ft upstream from Little Huff Creek, 2,500 ft downstream from R.D. Bailey Dam and 0.5 mi northeast of Justice, and at mile 111.6. Datum of gage is 880.00 ft above NGVD 29.	535	1979-1982# 1983-1986* 1987-1991# 1992-2004*	02-06-04 04-14-04	9.13 9.13	06-22-79	13.90	16,800
Guyandotte River at Man, WV (03203000)	Lat 37°44'25", long 81°52'37", Logan County, 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. Datum of gage is 710.88 ft above NGVD 29, adjustment of 1912.	758	1928-1962# 1963-2004*	11-19-03	14.85	03-12-63	24.78	49,000
Guyandotte River at Branchland, WV (03204000)	Lat 38°13'15", long 82°12'10", Lincoln County, Hydrologic Unit 05070102, on right bank at upstream side of highway bridge at Branchland, opposite mouth of Fourmile Creek, and at mile 35.3. Records include flow of Fourmile Creek. Datum of gage 'is 547.91 ft above NGVD 29.	1,224	1915-1917# 1917-1922* 1929-1995# 1996-2004*	11-20-03	28.54	03-13-63	43.83	44,500

Maximum stage at partial-record stations --Continued

Station name and number	Location	Drainage area (mi^2)	Period of record	Water year 2004 maximum		Period of record maximum		
				Date	Gage height (ft)	Date	Gage height (ft)	Discharge (ft^3/s)
OHIO RIVER MAIN STEM								
Ohio River at Huntington, WV (03206000)	Lat 38°24'48", long 82°30'02", Lawrence County Ohio,Hydrologic Unit 05090101, on right bank at lock 28 at Sybene, Ohio, 0.1 mi upstream from Fourpole Creek, 3.0 mi downstream from Symmes Creek, and at mile 311.5, measured downstream from Pittsburgh, Pa. Datum of gage is 490.26 ft, Sandy Hook datum.	55,850	1935-1986# 1987-2004*	09-20-04	51.26	01-27-37 01-28-37	69.45 ---	--- 654,000
TWELVEPOLE CREEK BASIN								
East Fork Twelvepole Creek below East Lynn Dam, WV (03206790)	Lat 38°08'52", long 82°23'00", Wayne County, 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. Datum of gage is 610.00 ft above NGVD 29.	138	1962-1982# 1983-1986* 1991-2004*	02-07-04	12.07	03-12-68	(h)31.50	4,960
Twelvepole Creek below Wayne, WV (03207020)	Lat 38°14'56", long 82°26'04", Wayne County, 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. Datum of gage is 560.00 ft above NGVD 29.	300	1967-1982# 1983* 1994-2004*	11-13-03	24.57	02-28-62	29.46	15,900

\# Operated as a continuous-record gaging station.
* Peak stage only.
(a) Estimated from rating curve extended above 26,000 ft^3/s on basis of drainage-area comparisons.
(b) Discharge not determined.
(c) Backwater from West Fork River.
(d) From floodmark, backwater.
(e) Estimated.
(f) From float tape indicator.
(g) Backwater.
(h) From floodmarks.

Maximum discharge and stage at crest-stage stations.

Station name and number	Location and drainage area	Drainage area (mi^2)	Period of record	Water year 2004 maximum		
				Date	Gage height (ft)	Discharge (ft^3/s)
	POTOMAC RIVER BASIN					
Heavener Run near Brandywine, WV (01607510)	Lat 38°37'59", long 79°13'49", Pendleton County, Hydrologic Unit 02070001, on right upstream end of 6 ft corrugated culvert on US Route 33, 1.1 mi northeast of Brandywine. Elevation of gage is approximately 1,550 ft above NGVD 29, from topographic map.	1.04	1999-2004	11-19-2003	7.39	27
Little Cacapon River at Frenchburg, WV (01609650)	Lat 39°18'55", long 78°39'27", Hampshire County, Hydrologic Unit 02070003, on left upstream side of bridge, on County Route 50/9, 5 mi east of Romney.	28.9	1999-2004	09-09-2004	11.99	3,530
	MONONGAHELA RIVER BASIN					
Unnamed Run at Gilman, WV (03050650)	Lat 38°58'35", long 79°50'16", Randolph County, 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.	0.38	1999-2004	02-06-2004	5.41	53
Mud Lick Run near Buckhannon, WV (03052340)	Lat 39°00'17", long 80°15'23", Upshur County, Hydrologic Unit 05020001, on left upstream wingwall of culvert on US Highway 33 and 119, 1.5 mi west of Buckhannon. Datum of gage is 1,407.68 ft above NGVD 29.	2.33	1999-2004	03-03-1999	5.48	68
				02-19-2000	8.34	319
				05-20-2001	6.04	98
				03-20-2002	8.72	369
				02-23-2003	7.32	200
				11-19-2003	8.22	303
Shavers Fork at Cheat Bridge, WV (03067500)	Lat 38°36'40", long 79°52'30", Randolph County, Hydrologic Unit 05020004, on upstream side of old steel truss bridge at Cheat Bridge, 35 mi south of Elkins, cross Shavers Fork on new bridge, proceed 1/4 mi to side road to old bridge. Datum of gage is 3,542.93 ft above NGVD 29.	57.6	1923-1926 1992-2004	11-19-2003	12.60	8,190
Buffalo Creek near Rowlesburg, WV (03069880)	Lat 39°17'19", long 79°42'16", Preston County, Hydrologic Unit 05020004, on left bank, 150 ft upstream from secondary highway bridge, 4.5 mi southwest of Rowlesburg, and at mile 2.8. Elevation of gage is approximately 1,640 ft above NGVD 29, from topographic map.	12.2	1967-1977 1994-2004	11-19-2003	5.34	1,590
	MIDDLE ISLAND CREEK BASIN					
Buffalo Run near Little, WV (03114650)	Lat 39°29'13", long 81°00'27", Tyler County, Hydrologic Unit 05030201, on left bank, 1.0 mi northwest of Little, and at mile 1.4. Elevation of gage is approximately 660 ft above NGVD 29, from topographic map.	4.19	1969-1977 1994-2004	09-18-2004	10.13	---
	LITTLE KANAWHA RIVER BASIN					
Buck Run near Leopold, WV (03152200)	Lat 39°07'26", long 80°41'26", Doddridge County, Hydrologic Unit 05030203, on right bank 12 ft upstream from culvert on Secondary State Route 66, 0.3 mi upstream from mouth, and 2.6 mi east of Leopold. Elevation of gage is approximately 840 ft above NGVD 29, from topographic map.	2.91	1970-1977 1994-2004	11-19-2003	6.78	---
Goose Creek near Petroleum, WV (03155525)	Lat 39°12'47", long 81°13'52", Ritchie County, 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.	25.3	1999-2004	05-22-2001	*22.57	*1,410
				09-18-2004	26.87	3,850
	KANAWHA RIVER BASIN					
Payne Branch near Oakvale, WV (03177100)	Lat 37°21'28", long 80°58'40", Mercer County, Hydrologic Unit 05050002, on left upstream side of bridge, on County Route 219/3, 1.8 mi northwest of Oakvale and 4 mi east of Princeton.	8.64	2000-2004	05-18-2001	6.51	*1,730
				05-02-2001	5.93	*1,370
				02-22-2003	*5.12	*1,030
				01-20-2004	6.57	1,760

Maximum discharge and stage at crest-stage stations. --Continued

Station name and number	Location and drainage area	Drainage area (mi^2)	Period of record	Water year 2004 maximum		
				Date	Gage height (ft)	Discharge (ft^3/s)
	KANAWHA RIVER BASIN--Continued					
Big Creek near Bellepoint, WV (03184200)	Lat 37°40'28", long 80°48'52", Summers County, Hydrologic Unit 05050003, on left upstream wingwall of bridge, on Secondary Route 10, 4 mi northeast of Bellepoint. Datum of gage is 1,407.68 ft above NGVD 29.	8.27	1969-1977 1999-2004	11-19-2003	(a)13.50	(b)1,910
Anglins Creek near Nallen, WV (03190100)	Lat 38°08'28", long 80°50'13", Nicholas County, Hydrologic Unit 05050005, on left upstream side of bridge, on County Route 24/7, 0.7 mi southeast of Runa, 2 mi southeast of Pool, and 3 mi northeast of Nallen.	23.5	1999-2004	07-29-2001 11-12-2003	16.38 15.72	*6,900 4,820
Gilmer Run near Marlinton, WV (03193830)	Lat 38°19'12", long 80°05'52", Pocahontas County, Hydrologic Unit 05050007, on right bank 8 ft above entrance to culvert under Forest Service Road 151, 6.8 mi north of Marlinton, 200 ft off US Route 219. Elevation of gage is approximately 3,120 ft above NGVD 29, from topographic map.	1.80	1968-1977 1999-2004	02-06-2004	10.04	1,020
Granny Creek at Sutton, WV (03195600)	Lat 38°40'36", long 80°42'47", Braxton County, Hydrologic Unit 05050007, on right bank, 10 ft upstream from culvert on US Highway 19, 0.7 mi upstream from mouth, and 1.0 mi northwest of Sutton. Elevation of gage is approximately 840 ft above NGVD 29, from topographic map.	6.98	1967-1977 1994-2004	05-28-2004	17.80	2,000
Ashleycamp Run near Lefthand, WV (03197150)	Lat 38°37'34", long 81°14'02", Roane County, Hydrologic Unit 05050007, on right upstream wingwall of culvert on State Route 36, 1.25 mi east of Lefthand. Elevation of gage is approximately 780 ft above NGVD 29, from topographic map.	2.01	1999-2004	11-19-2003	7.33	---
Rock Creek near Danville, WV (03199300)	Lat 38°06'00", long 81°49'48", Boone County, Hydrologic Unit 05050009, on right bank 20 ft upstream from bridge on US Route 119, 1.5 mi north of Danville. Datum of gage is 675.46 ft above NGVD 29.	12.2	1979-1984 1999-2004	02-22-2003 11-19-2003	(c)7.71 8.84	(b)535 749
Poplar Fork at Teays, WV (03201410)	Lat 38°27'02", long 81°55'54", Putnam County, Hydrologic Unit 05050008, on right wingwall at box culvert on Secondary Route 46, 0.6 mi east of Teays Valley. Datum of gage is 643.00 ft above NGVD 29.	8.47	1967-1978 1992-2004	11-19-2003	13.28	1,360
	GUYANDOTTE RIVER BASIN					
Marsh Fork at Maben, WV (03202245)	Lat 37°38'19", long 81°23'38", Wyoming County, Hydrologic Unit 05070101, on left upstream wingwall of culvert, on State Route 97, 0.1 mi south of Maben, near Twin Falls State Park. Elevation of gage is approximately 1,590 ft above NGVD 29, from topographic map.	4.85	1978-1980 1999-2004	Unknown Unknown 07-08-2001 Unknown 02-22-2003 11-19-2003	<6.10 <6.10 (a)15.38 <5.60 *7.60 8.20	<254 <254 (b)5,800 <192 *478 586
Brier Creek at Fanrock, WV (03202480)	Lat 37°33'48", long 81°39'09", Wyoming County, Hydrologic Unit 05070101, on right bank on Secondary State Route 14, 0.3 mi south of Fanrock, and 0.3 mi upstream from mouth. Elevation of gage is approximately 1,220 ft above NGVD 29, from topographic map.	7.34	1969-1977 1994-2004	11-19-2003	7.62	876
	OHIO RIVER BASIN					
Fourpole Creek near Huntington, WV (03206450)	Lat 38°21'45", long 82°23'37", Cabell County, Hydrologic Unit 05090101, on left upstream bridge abutment on County Route 48/1, 5 mi southeast of Huntington.	4.02	1999-2004	09-18-2004	12.05	1,540

* Revised.
(a) From floodmarks.
(b) From slope-area measurement.
(c) Stage affected by backwater from debris on bridge.

Discharge measurements in the following table were made at partial-record stations and miscellaneous sites throughout the State.

Discharge measurements made at partial-record stations and miscellaneous sites

Station name and number	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
				Date	Discharge (ft^3/s)
	POTOMAC RIVER BASIN				
South Branch Potomac River near Moorefield, WV (01608070)	Lat 39°06'14", long 78°57'37", Hardy County, Hydrologic Unit 02070001, on left bank, 124 ft upstream from concrete highway bridge on US Route 220, 500 ft below Fort Run, 2.0 mi north of Moorefield, and at mile 55.4. Datum of gage is 765.00 ft above NGVD 29.	1,241	1994-2002# 2003-2004	*10-23-2002 10-09-2003	469 492
	MONONGAHELA RIVER BASIN				
Unnamed Run at Gilman, WV (03050650)	Lat 38°58'35", long 79°50'16", Randolph County, 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.	0.38	2000 2002 2004	11-19-2003	22.3
Mud Lick Run near Buckhannon, WV (03052340)	Lat 39°00'17", long 80°15'23", Upshur County, Hydrologic Unit 05020001, on left upstream wingwall of culvert on US Highway 33 and 119, 0.2 mi above mouth, and 1.5 mi west of Buckhannon. Datum of gage is 1,407.68 ft above NGVD 29.	2.33	1999-2001 2004	11-19-2003 11-19-2003	125 260
Tygart Valley River at Colfax, WV (03057000)	Lat 39°26'06", long 80°07'58", Marion County, Hydrologic Unit 05020001, on right bank at highway bridge at Colfax, 300 ft upstream from Guyses Run, and at mile 6.2. Records include flow of Guyses Run. Datum of gage is 856.27 ft above NGVD 29, supplementary adjustment of 1944.	1,363	1939-1995# 1996 1998-2001 2003-2004	11-07-2003	6,010
Shavers Fork at Cheat Bridge, WV (03067500)	Lat 38°36'40", long 79°52'30", Randolph County, Hydrologic Unit 05020004, on upstream side of old steel truss bridge at Cheat Bridge, 35 mi south of Elkins, upstream from US Route 250 highway bridge. Datum of gage is 3,542.93 ft above NGVD 29.	57.6	1923-1926 1966 1972 1979-1980 1993-1996 2000-2004	(a)	(a)
	MIDDLE ISLAND CREEK BASIN				
Buffalo Run near Little, WV (03114650)	Lat 39°29'13", long 81°00'27", Tyler County, Hydrologic Unit 05030201, on left bank, 1.0 mi northwest of Little, and at mile 1.4. Elevation of gage is approximately 660 ft above NGVD 29, from topographic map.	4.19	1969-1977# 1994-1995 1998 2004	12-11-2003	24.7
	LITTLE KANAWHA RIVER BASIN				
Buck Run near Leopold, WV (03152200)	Lat 39°07'26", long 80°41'26", Doddridge County, Hydrologic Unit 05030203, on right bank 12 ft upstream from culvert on Secondary State Route 66, 0.3 mi upstream from mouth, and 2.6 mi east of Leopold. Elevation of gage is approximately 840 ft above NGVD 29, from topographic map.	2.91	1970-1977 1994-1995 1998 2004	12-11-2003	25.4
	KANAWHA RIVER BASIN				
Lick Creek near Sandstone, WV (374643080533401)	Lat 37°46'43", long 80°53'34", Summers County, Hydrologic Unit 05050004, on right bank, 50 ft downstream from State Route 20 bridge over Lick Creek, about .5 mi north on Rt 20 from Sandstone, and at mile 0.2.	39.1	1988-2004	11-04-2003 06-01-2004	14.4 209
Meadow Creek at Meadow Creek, WV (374847080552401)	Lat 37°48'47", long 80°55'24", Summers County, Hydrologic Unit 05050004, on the left bank, 10 ft downstream side of State Route 7/1 bridge about 0.3 mi from Meadow Creek, and at mile 0.3.	28.8	1988-2004	11-04-2003 05-27-2004	18.4 104

Discharge measurements in the following table were made at partial-record stations and miscellaneous sites throughout the State.

Discharge measurements made at partial-record stations and miscellaneous sites --Continued

Station name and number	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
				Date	Discharge (ft^3/s)
	KANAWHA RIVER BASIN-Continued				
Piney Creek near McCreery, WV (375041081054201)	Lat 37°50'41", long 81°05'42", Raleigh County, Hydrologic Unit 05050004, about 1,500 ft upstream from State Route 41 highway bridge, and at mile 0.5.	134	1990-2004	11-04-2003 05-27-2004	78.3 516
Laurel Creek at Quinnimont, WV (375105081024801)	Lat 37°51'05", long 81°02'48", Fayette County, Hydrologic Unit 05050004, on the left bank downstream side of bridge, on a railroad bridge trestle, 1 mi east of Prince along State Route 41, and at mile 0.1.	27.6	1988-2004	11-04-2003 05-27-2004	26.2 114
Dunloup Creek near Thurmond, WV (375635081051601)	Lat 37°56'35", long 81°05'16", Fayette County, Hydrologic Unit 05050004, on State Route 25 bridge southwest of Thurmond, and at mile 1.1.	45.8	1988-2004	11-04-2003 05-27-2004	39.8 137
Arbuckle Creek at Minden, WV (375834081063201)	Lat 37°58'34", long 81°06'32", Fayette County, Hydrologic Unit 05050004, on upstream side of box culvert, on County Route 17/11, north of Minden.	---	2003-2004	11-03-2003 05-27-2004 07-27-2004	3.48 15.4 35.4
Wolf Creek near Fayetteville, WV (380351081045401)	Lat 38°03'51", long 81°04'54", Fayette County, Hydrologic Unit 05050004, on the left bank, 40 ft below State Route 82 bridge, east of Fayette Station, and at mile 0.1	17.4	1988-2004	11-03-2003 05-25-2004	10.3 17.3
Marr Branch near Fayetteville, WV (380427081053901)	Lat 38°04'27", long 81°05'39", Fayette County, 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.	3.13	1988-2004	11-03-2003 05-25-2004	2.17 18.1
Big Creek near Bellepoint, WV (03184200)	Lat 37°40'28", long 80°48'52", Summers County, Hydrologic Unit 05050003, on left upstream wingwall of bridge, on Secondary Route 10, 4 mi northeast of Bellepoint. Datum of gage is 1,407.68 ft above NGVD 29.	8.27	1969-1977 2001 2003-2004	11-19-2003	(b)1,910
New River at Hinton, WV (03184500)	Lat 37°40'13", long 80°53'34", Summers County, Hydrologic Unit 05050004, on right bank at Hinton, 0.2 mi upstream from Madam Creek, 1.5 mi downstream from Greenbrier River, at New River mile 62.0 and Kanawha River mile 160.0. Datum of gage is 1,355.18 ft above NGVD 29.	6,256	1936-2003# 2004	10-02-2003	5,800
Gauley River at Camden on Gauley, WV (03187000)	Lat 38°21'57", long 80°36'04", Webster County, Hydrologic Unit 05050005, on right bank in 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. Datum of gage is 2003.28 ft above NGVD 29, adjustment of 1912.	236	1909-1916 1930-1975# 1979 1981 1983-2000 2003-2004	10-30-2003 03-09-2004	835 1,270
Gauley River below Summersville Dam, WV (03189600)	Lat 38°12'54", long 80°53'18", Nicholas County, Hydrologic Unit 05050005, on right bank 0.4 mi downstream from Summersville Dam, 5.0 mi southwest of Summersville, and at mile 35.3. Datum of gage is 1,350.00 ft above mena sea level (levels by U.S. Army Corps of Engineers).	806	1966-1982# 1982-1986 1986-2003# 2004	10-31-2003 03-11-2004	4,300 3,490
Elk River at Clay, WV (03196800)	Lat 38°27'38", long 81°05'16", Clay County, Hydrologic Unit 05050007, on upstream side of right bank of highway bridge in the town of Clay, 0.9 mi downstream from Buffalo Creek, and 2.1 mi downstream from Lower Two Run Creek, and at mile 52.4. Datum of gage is 677.46 ft above NGVD 29.	992	1959-1978# 1979-1997 2002-2004	11-10-2003 11-13-2003	2,730 8,700

Discharge measurements in the following table were made at partial-record stations and miscellaneous sites throughout the State.

Discharge measurements made at partial-record stations and miscellaneous sites --Continued

Station name and number	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
				Date	Discharge (ft^3/s)
	KANAWHA RIVER BASIN-Continued				
Ashleycamp Run near Lefthand, WV (03197150)	Lat 38°37'34", long 81°14'02", Roane County, Hydrologic Unit 05050007, on right upstream wingwall of culvert on State Route 36, 1.25 mi east of Lefthand. Elevation of gage is approximately 780 ft above NGVD 29, from topographic map.	2.01	1998 2003-2004	11-12-2003	100
	GUYANDOTTE RIVER BASIN				
Marsh Fork at Maben, WV (03202245)	Lat 37°38'19", long 81°23'38", Wyoming County, Hydrologic Unit 05070101, on left upstream wingwall of culvert, on State Route 97, 0.1 mi south of Maben, near Twin Falls State Park. Elevation of gage is approximately 1,590 ft above NGVD 29, from topographic map.	4.85	1999-2001 2004	11-19-2003 11-19-2003	361 317

* Revised.
\# Operated as a continuous-record gaging station.
(a) Measurements incorporated in rating study for station 03067510, Shavers Fork near Cheat Bridge, included in this report.
(b) Indirect measurement.

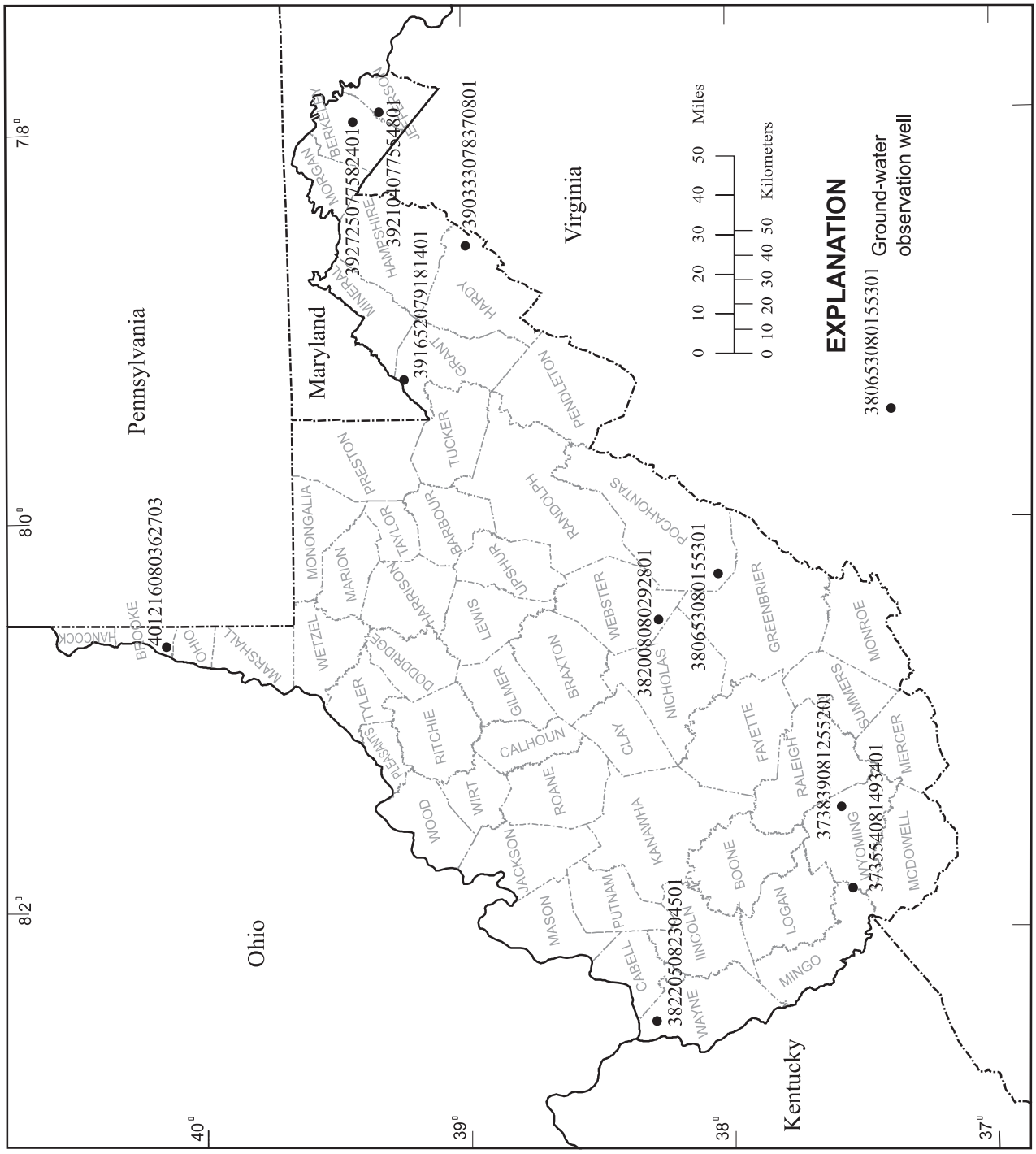


Figure 5.-- Map of West Virginia showing location of ground-water observation wells.

GROUND-WATER-QUALITY RECORDS

Remark Codes

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

PRINTED OUTPUT	REMARK
E	Value is estimated.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
M	Presence of material verified, but not quantified.
N	Presumptive evidence of presence of material.
U	Material specifically analyzed for, but not detected.
A	Value is an average.
V	Analyte was detected in both the environmental sample and the associated blanks.
S	Most probable value.

Dissolved Trace-Element Concentrations

NOTE.--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (µg/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the µg/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994.

Water-Quality Control Data

NOTE.--See information related to quality-control data beginning on page 24.

GROUND-WATER LEVELS

BERKELEY COUNTY

392725077582401. Local number, Ber-0445.

LOCATION.--Lat 39°27'25", long 77°58'24", NAD 27, Hydrologic Unit 02070004, at John Street and Porter Avenue, Martinsburg.

AQUIFER.--Beekmantown Group of Lower Ordovician age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in., depth 154 ft, cased with steel to 10 ft.

INSTRUMENTATION.--Periodic water-level measurements, November 1956 to October 1970. Digital water-level recorder--60-minure interval, October 1970 to September 2000. Electronic data logger at 60-minute interval with satellite telemetry, October 2003 to present.

DATUM.--Elevation of land-surface datum is about 465 ft above NGVD 29. Measuring point: Top edge of recorder shelter floor, 3.30 ft above land-surface datum.

REMARKS.--Aquifer test data available. No water-level record November 8-24, December 8-17, and June 6-7.

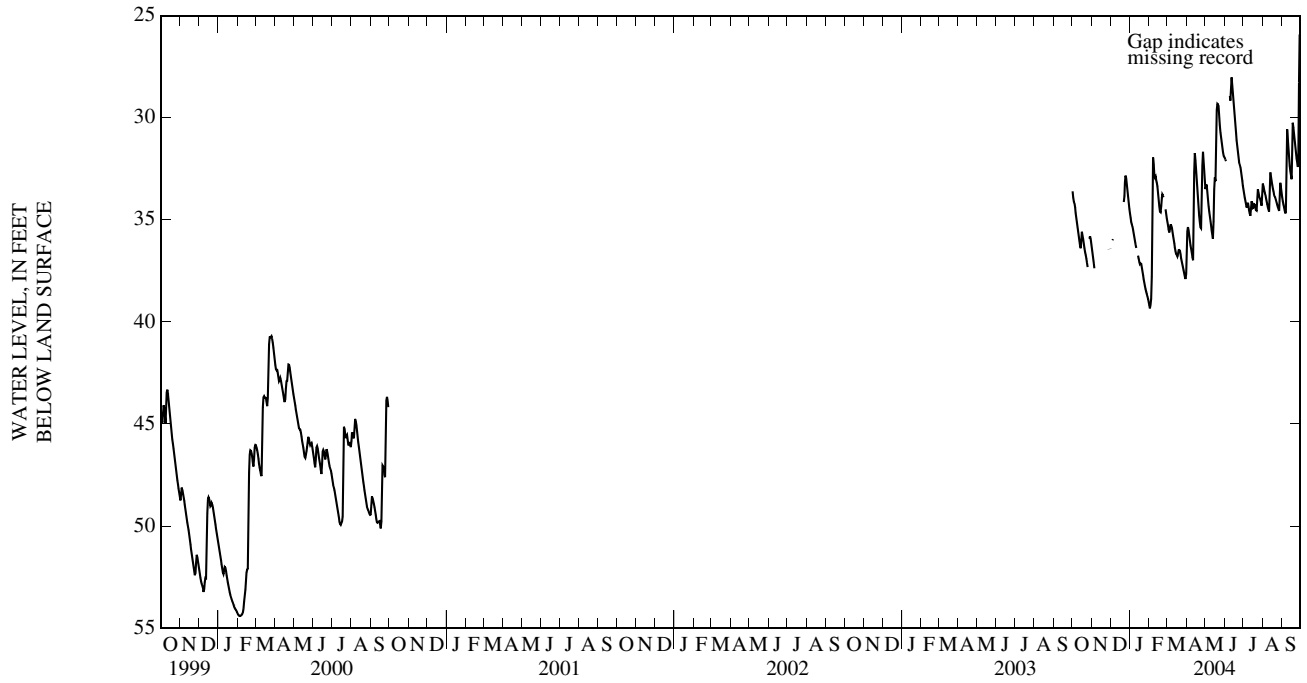
PERIOD OF RECORD.--November 1956 to September 30, 2000; October 2003 to current year.

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.

EXTREMES FOR CURRENT YEAR.--Highest water level, 25.27 ft, below land-surface datum, Sept. 29; lowest, 39.41 ft below land-surface datum, Feb. 3.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	34.28	37.28	36.02	35.25	38.79	35.70	35.64	33.81	---	34.15	33.68	34.47
10	35.52	---	---	36.15	33.05	35.68	36.72	35.18	29.04	34.45	34.44	30.78
15	36.39	---	---	36.82	33.51	36.61	31.83	34.17	29.06	34.14	33.00	32.71
20	36.29	---	---	37.26	34.55	36.51	34.29	29.16	30.95	34.33	33.84	30.67
25	37.22	---	32.82	38.16	33.92	37.11	35.36	30.61	32.31	33.59	34.32	32.11
EOM	36.05	---	34.33	38.97	34.84	37.92	32.85	31.92	33.22	34.37	33.53	26.41



BROOKE COUNTY

401216080362703. Local number, Brk-0066.

LOCATION.--Lat 40°12'16", long 80°36'27", NAD 27, Hydrologic Unit 05030106, about 2.5 mi west of Bethany on hilltop about 1,700 ft west of Buffalo Creek.

AQUIFER.--Waynesburg coal in the Monongahela Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 50.5 ft, cased with steel to 46.5 ft and set in bentonite clay seal.

INSTRUMENTATION.--July 1982 to June 1999, continuous strip-chart water-level recorder. June 1999 to October 30, 2000, digital water-level recorder--60-minute punch. Electronic data logger at 60-minute interval, October 30, 2000 to present. Satellite telemetry installed at site on February 28, 2002.

DATUM.--Elevation of land-surface datum is about 1,150 ft above NGVD 29. Measuring point: Top edge of recorder shelter floor, 2.14 ft above land-surface datum. For the period from June 3, 1999 to February 28, 2002, measuring point was top edge of recorder shelter floor, 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.

REMARKS.--Aquifer test data available.

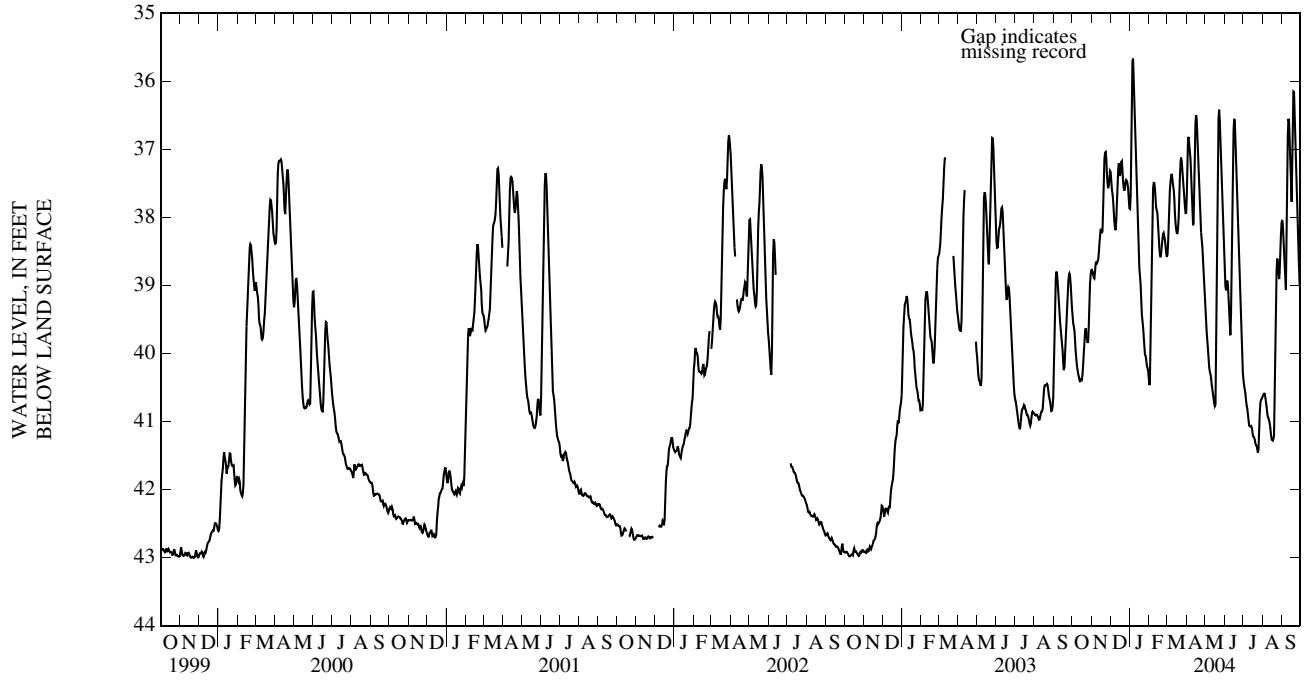
PERIOD OF RECORD.--July 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.87 ft below land-surface datum, Apr. 3, 1985; lowest, 43.15 ft below land-surface datum, Dec. 13, 1994.

EXTREMES FOR CURRENT YEAR.--Highest water level, 35.60 ft below land-surface datum, Jan. 6; lowest, 41.48 ft below land-surface datum, July 25, 26.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	39.75	38.90	37.68	35.82	39.06	37.69	36.85	39.86	38.93	40.63	40.60	38.63
10	40.27	38.67	38.18	36.55	37.52	37.50	37.77	40.33	39.67	41.03	40.94	37.00
15	40.34	38.20	37.22	38.25	37.98	38.14	36.69	40.69	36.87	41.10	41.24	37.32
20	39.96	37.64	37.21	39.34	38.59	37.88	37.15	38.27	37.41	41.29	41.18	36.10
25	39.83	37.26	37.51	40.00	38.26	37.22	38.28	36.73	39.25	41.48	38.59	37.68
EOM	38.79	37.36	37.82	40.29	38.56	37.98	39.15	38.39	40.22	40.66	38.14	39.12



GRANT COUNTY

391652079181401. Local number, Grt-0090.

LOCATION.--Lat 39°16'52", long 79°18'14", NAD 27, Hydrologic Unit 02070002, about 200 ft north of U.S. Route 50, about 3.5 mi west of Mount Storm.

AQUIFER.--Thin bed of coal in the Conemaugh Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 24 ft, cased with plastic to 23 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch to May 16, 2000. Electronic data logger at 60-minute interval, May 16, 2000 to present.

DATUM.--Elevation of land-surface datum is about 2,890 ft above NGVD 29. Measuring point: Top edge of recorder shelter floor, 1.49 ft above land-surface datum. Prior to July 30, 2003, measuring point was the top edge of the recorder shelter floor 1.50 ft above land-surface datum.

REMARKS.--Well is near reclaimed surface mine. No water-level record January 24 - February 3.

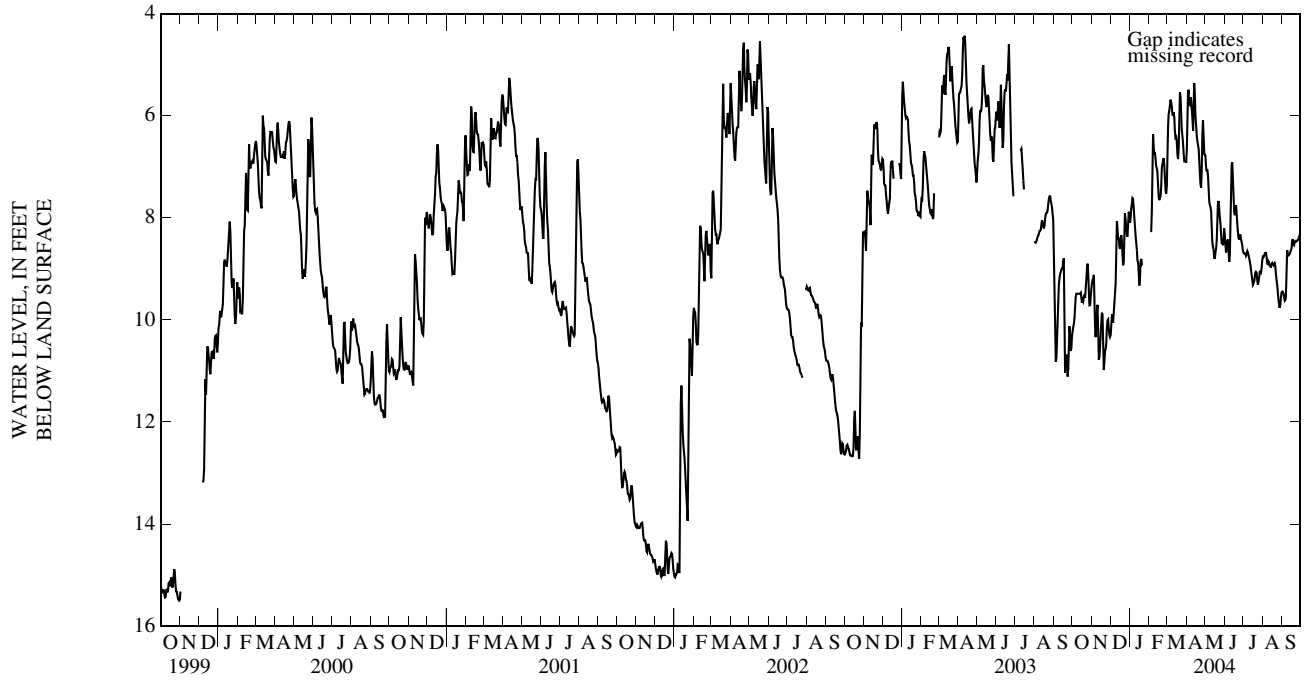
PERIOD OF RECORD.--June 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.12 ft below land-surface datum, Apr. 22, 2002; lowest, 21.24 ft below land-surface datum, Nov. 28, 29, 1982.

EXTREMES FOR CURRENT YEAR.--Highest water level, 5.12 ft below land-surface datum, Apr. 13; lowest, 11.08 ft below land-surface datum, Nov. 20.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.80	9.05	10.19	7.68	8.31	5.96	5.63	7.03	8.56	8.71	8.69	9.62
10	9.49	9.73	9.13	8.25	6.73	6.04	5.99	7.83	8.46	8.76	8.87	8.69
15	9.45	10.45	8.38	8.83	7.15	6.46	5.88	8.69	7.38	9.15	8.94	8.64
20	9.41	11.07	8.55	8.86	7.59	6.45	6.61	8.24	7.77	9.06	8.88	8.60
25	8.85	10.25	7.92	---	6.89	6.33	7.40	8.04	8.40	9.31	9.40	8.44
EOM	9.47	10.29	7.91	---	7.50	6.93	6.87	8.17	8.60	8.93	9.48	8.48



HARDY COUNTY

390333078370801. Local Number, Hrd-0301.

LOCATION.--Lat 39°03'33.06", long 78°37'07.61", NAD 83, Hydrologic Unit 02070003, about 200 ft east of Trout Run Rd, 1.5 miles southwest of Wardensville.

AQUIFER.--Marcellus Formation near the contact with the Oriskany Sandstone Group.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 160 ft, cased with steel to 58 ft.

INSTRUMENTATION.--Electronic data logger at 60-minute interval with satellite telemetry, June 24, 2004 to present.

DATUM.--Elevation of land-surface datum is about 1,165 ft above NGVD 29. Measuring point: Top of casing, 1.76 ft above land-surface datum.

REMARKS.--Aquifer test data and water-quality data available. No water-level record July 10-14, July 31-August 9, and September 10-12, 26-30, due to recorder malfunction.

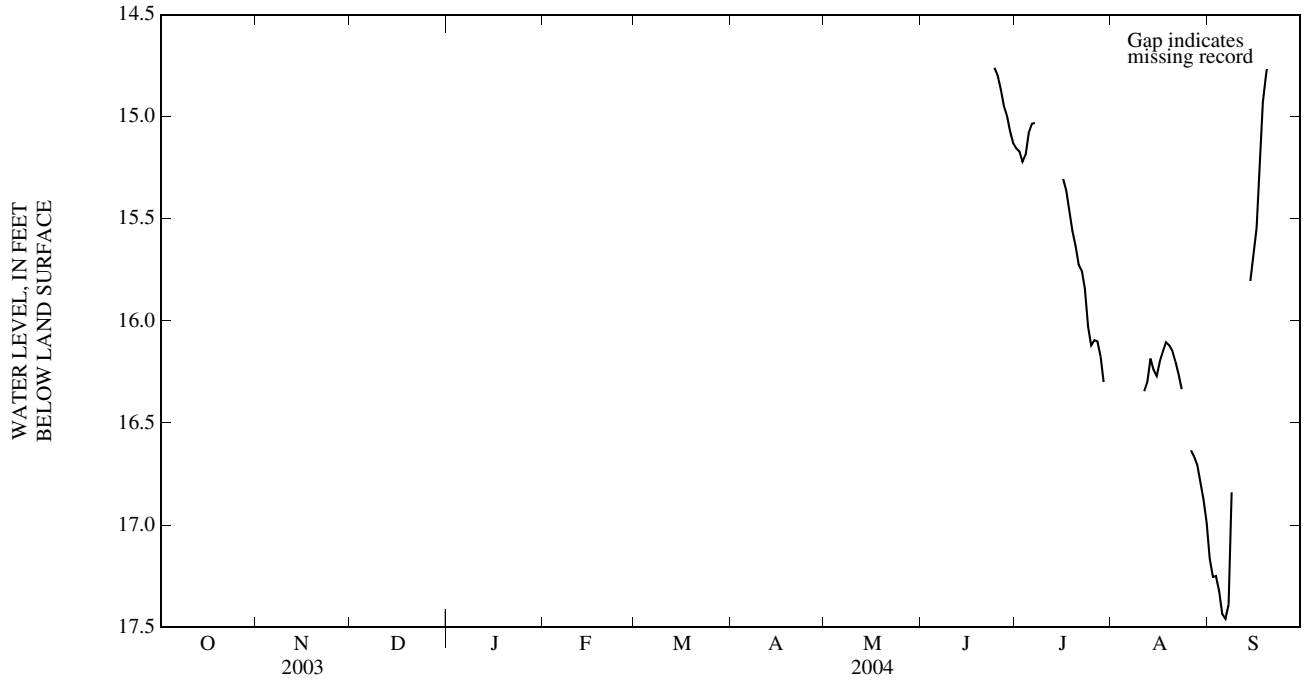
PERIOD OF RECORD.--June 24, 2004 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.31 ft below land-surface datum, Sept. 30, 2004; lowest, 17.53 ft below land-surface datum, Sept. 6, 2004.

EXTREMES FOR CURRENT YEAR.--Same as above.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	---	---	---	---	---	---	15.11	---	17.41
10	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	16.32	15.73
20	---	---	---	---	---	---	---	---	---	15.58	16.15	14.73
25	---	---	---	---	---	---	---	---	14.79	16.12	---	---
EOM	---	---	---	---	---	---	---	---	15.11	---	16.90	---



JEFFERSON COUNTY

392104077554801. Local number, Jef-0526.

LOCATION.--Lat 39°21'04", long 77°55'48", NAD 27, Hydrologic Unit 02070004, at Leetown Fish Research Station, Leetown.

AQUIFER.--Beekmantown Group of Lower Ordovician age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in., depth 155 ft, cased with steel to 36.7 ft, screened from 36.7 ft to 155 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch to August 3, 2000. Electronic data logger at 60-minute interval, August 3, 2000 to present. Satellite telemetry installed at this site on May 29, 2001.

DATUM.--Elevation of land-surface datum is about 480 ft above NGVD 29. Measuring point: Top edge of recorder shelter floor, 1.68 ft above land-surface datum. Prior to May 23, 2001, measuring point was top edge of recorder shelter, 2.20 ft above land surface datum.

REMARKS.--Water-quality and well log data available. No water-level record January 19, 21-22, April 28-May 1, May 3-9, and 13-18.

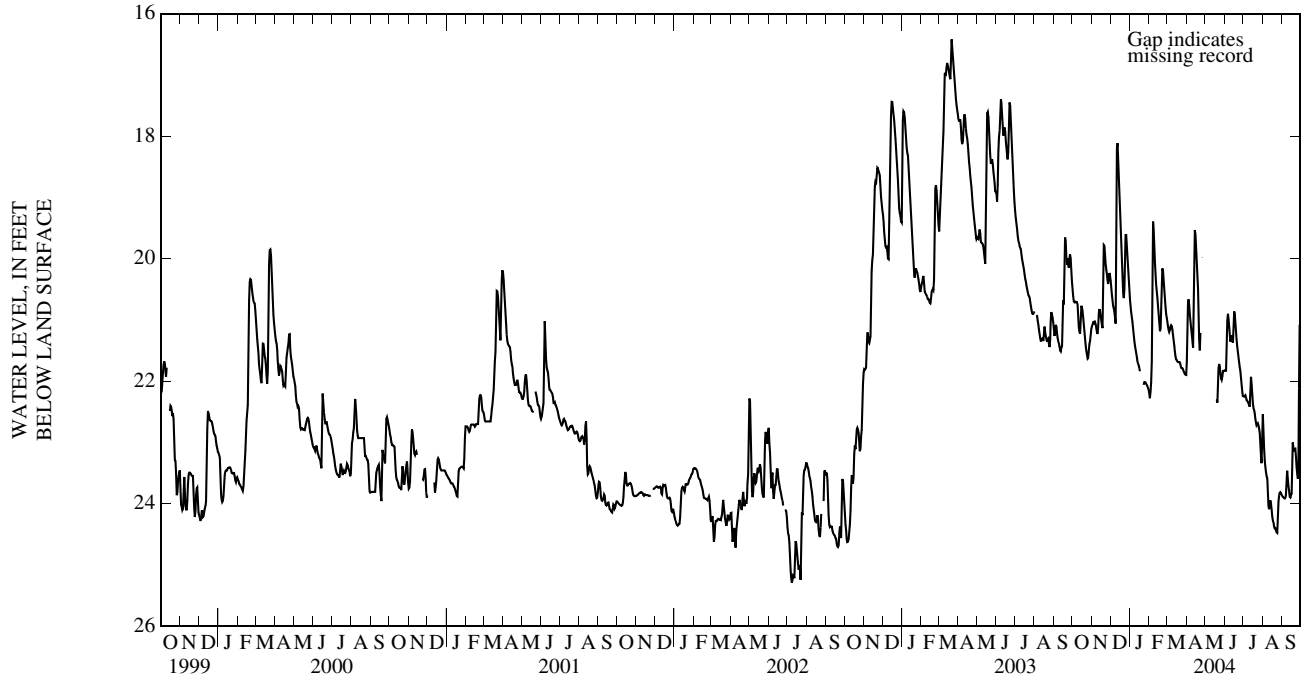
PERIOD OF RECORD.--March 1988 to current year.

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.

EXTREMES FOR CURRENT YEAR.--Highest water level, 17.98 ft below land-surface datum, Dec. 12; lowest, 24.59 ft below land-surface datum, Aug. 25.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	20.72	21.06	20.74	20.99	21.99	21.22	20.67	---	21.14	22.23	23.37	23.91
10	20.79	21.22	21.09	21.46	19.98	21.21	21.32	21.40	21.30	22.37	23.98	23.51
15	20.79	20.90	18.99	21.72	20.72	21.64	19.51	---	21.42	22.14	24.04	23.84
20	21.17	19.82	20.33	21.92	21.04	21.70	20.62	22.28	21.26	22.59	24.40	23.14
25	21.60	20.19	19.68	22.02	20.38	21.80	---	21.81	21.75	22.71	24.48	23.48
EOM	21.17	20.25	20.46	22.13	20.95	21.90	---	21.84	22.25	23.36	23.84	21.28



MINGO COUNTY

373554081493401. Local number, Mig-0131.

LOCATION.--Lat 37°35'54", long 81°49'34", NAD 27, Hydrologic Unit 05070101, downstream of toe of R. D. Bailey Dam northeast of Justice.

AQUIFER.--New River Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in., depth 66 ft, cased with steel.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch to November 14, 2000. Electronic data logger at 60-minute interval November 16, 2000 to present.

DATUM.--Elevation of land-surface datum is about 920 ft above NGVD 29. Measuring point: Top edge of recorder shelter floor, 1.57 ft above land-surface datum. Prior to November 18, 1999, measuring point was top edge of recorder shelter floor, 1.06 ft above land-surface datum.

REMARKS.--At times, water level affected by Guyandotte River. No water-level record October 16-December 2 due to recorder malfunction.

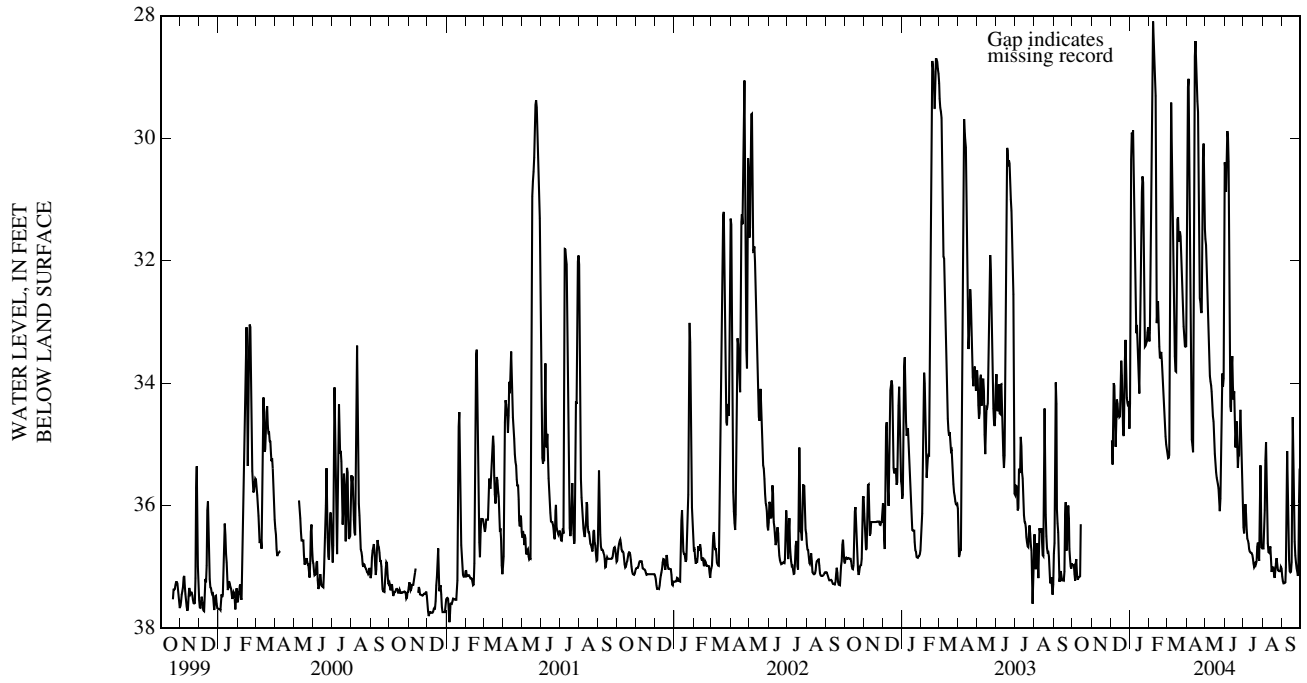
PERIOD OF RECORD.--March 1980 to current year.

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.

EXTREMES FOR CURRENT YEAR.--Highest water level, 27.78 ft below land-surface datum, Feb. 7; lowest, 37.28 ft below land-surface datum, Oct. 5.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	37.27	---	35.21	30.13	30.95	35.17	29.17	32.68	29.99	36.01	36.06	37.27
10	37.23	---	35.10	32.32	28.77	31.98	34.95	34.00	34.10	36.67	36.75	35.44
15	35.46	---	34.47	33.60	32.52	33.90	28.34	34.68	34.29	36.78	37.15	37.09
20	---	---	33.99	31.15	33.48	31.82	29.57	35.59	34.58	36.95	37.25	35.73
25	---	---	33.36	33.42	34.39	32.24	33.07	36.13	35.46	36.67	37.04	37.05
EOM	---	---	34.20	33.17	35.04	33.34	31.37	33.52	35.90	36.70	36.93	35.83



POCAHONTAS COUNTY

380653080155301. Local number, Poc-0256.

LOCATION.--Lat 38°06'53", long 80°15'53", NAD 27, Hydrologic Unit 05050003, on Droop Mountain State Park north of Droop on U.S. Route 219.

AQUIFER.--Mauch Chunk Group of Upper Mississippian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 86 ft, cased with steel.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer, 1970-76; periodic measurement by USGS personnel, 1978-80; digital water-level recorder--60-minute punch, 1980 to Sept. 11, 2000. Electronic data logger at 60-minute interval, September 11, 2000 to present.

DATUM.--Elevation of land-surface datum is about 3,000 ft above NGVD 29. Measuring point: Top edge of recorder shelter floor, 1.92 ft above land surface datum. July 7, 1983 to July 8, 2004, measuring point was top edge of recorder shelter at land-surface datum. May 28, 1980 to July 7, 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.

REMARKS.--No water-level record July 7 due to gage construction.

PERIOD OF RECORD.--December 1970 to January 1976, April 1978 to current year. Published as local well number "44-4-1", 1973-78.

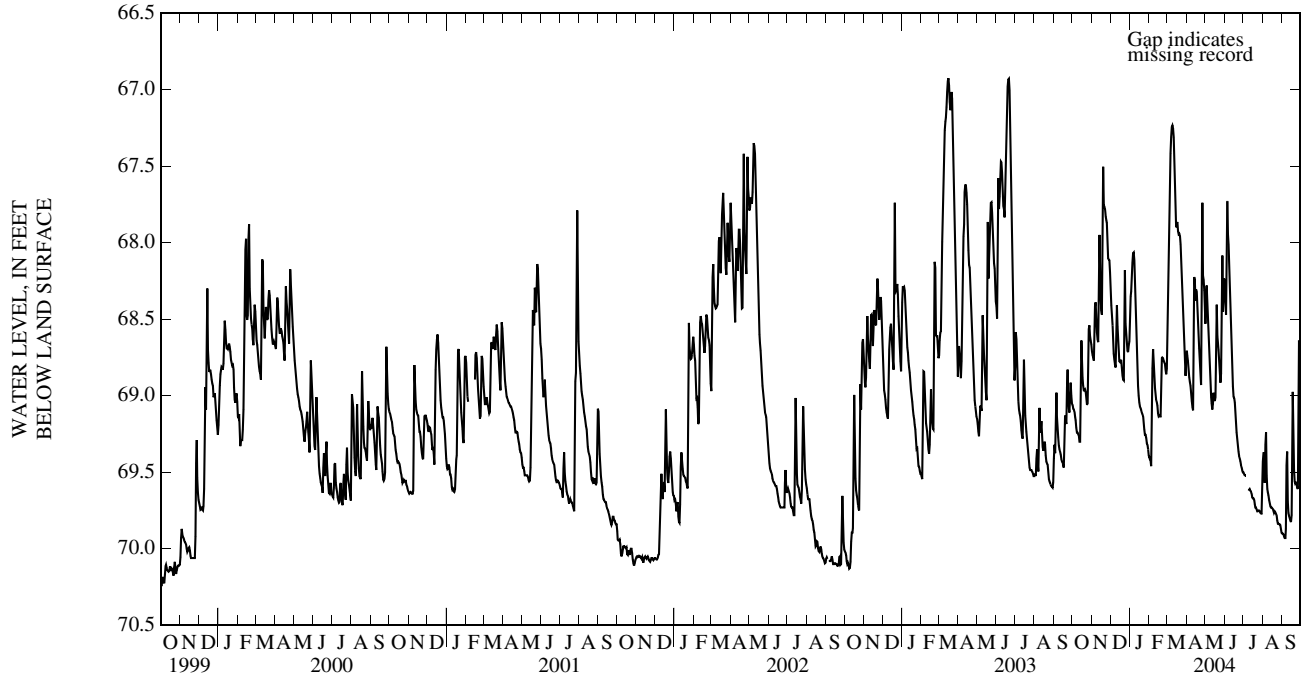
REVISED RECORDS.--WDR WV-79-1: Well location, well characteristics, and water levels. WDR WV-83-1: Station identification number and lowest water level.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.86 ft below land-surface datum, May 30, 1982; lowest, 70.37 ft below land-surface datum, July 22, 1997. (73.39 ft below land-surface datum, Oct. 25, 1984, due to pumping.)

EXTREMES FOR CURRENT YEAR.--Highest water level, 67.03 ft below land-surface datum, Nov. 19; lowest, 69.93 ft below land-surface datum, Sept. 5-8.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	69.14	68.78	68.58	68.18	69.46	67.94	68.86	68.40	67.53	69.52	69.61	69.93
10	69.24	68.62	68.82	68.32	68.92	67.24	69.06	68.98	68.38	69.62	69.63	69.63
15	68.58	68.28	68.77	68.98	69.09	67.87	68.44	68.97	68.98	69.66	69.73	69.82
20	68.98	67.72	68.85	69.10	69.13	67.94	68.52	68.59	69.22	69.73	69.76	69.43
25	69.06	67.86	68.49	69.25	68.78	68.34	68.96	68.90	69.41	69.75	69.84	69.59
EOM	68.64	68.13	68.64	69.38	68.86	68.89	68.36	68.25	69.50	69.77	69.89	68.91



WAYNE COUNTY

382205082304501. Local number, Way-0144.

LOCATION.--Lat 38°22'04.58", long 82°30'44.74", NAD 83, Hydrologic Unit 05090102, about 2.0 mi south of Huntington and 1.9 mi east of Tri-State Airport.

AQUIFER.--Conemaugh Group of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water table well, diameter, 6 in, depth, 106 ft, cased with steel to 30 ft.

INSTRUMENTATION.--Electronic data logger at 60-minute interval May 20, 2001 to present.

DATUM.--Elevation of land-surface datum is about 618 ft above NGVD 29. Measuring point: Top of extended casing, 3.14 ft above land-surface datum.

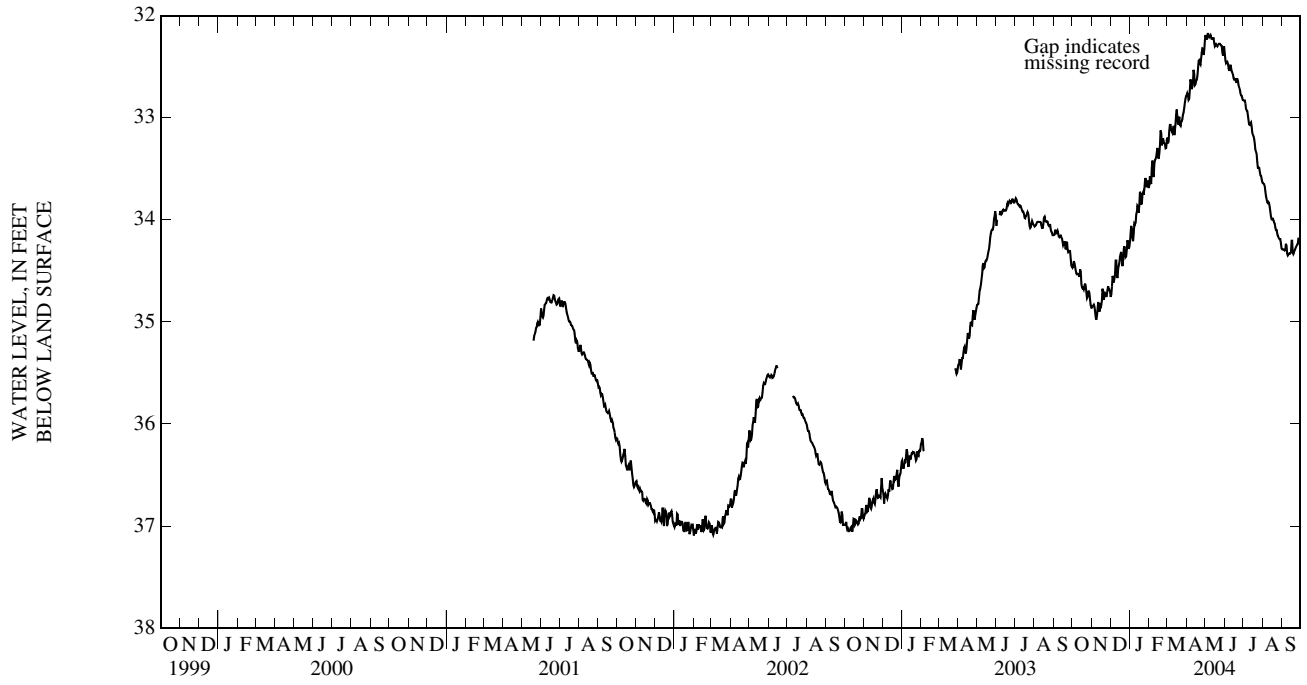
PERIOD OF RECORD.--May 20, 2001 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 32.09 ft below land-surface datum, May 2, 2004; lowest, 37.15 ft below land-surface datum, Mar. 9, 10, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 32.09 ft below land-surface datum, May 2; lowest, 34.98 ft below land-surface datum, Nov. 8, 9.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	34.46	34.83	34.50	34.13	33.60	33.06	32.84	32.15	32.45	32.89	33.69	34.30
10	34.53	34.91	34.28	34.09	33.40	33.20	32.70	32.20	32.49	33.05	33.83	34.35
15	34.62	34.83	34.50	33.94	33.30	33.08	32.69	32.23	32.59	33.13	33.99	34.33
20	34.70	34.81	34.47	33.87	33.05	32.94	32.48	32.30	32.67	33.29	34.03	34.33
25	34.76	34.76	34.34	33.67	33.27	33.04	32.36	32.28	32.71	33.49	34.16	34.25
EOM	34.85	34.64	34.26	33.68	33.27	32.79	32.28	32.27	32.82	33.61	34.27	34.26



WEBSTER COUNTY

382008080292801. Local number, Web-0167.

LOCATION.--Lat 38°20'08", long 80°29'28", NAD 27, 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.

AQUIFER.--Kanawha Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 80 ft, cased with galvanized iron to 60 ft.

INSTRUMENTATION.--Periodic measurement with chalked tape by USGS personnel, 1980-82. Digital water-level recorder--60-minute punch, 1982 to November 1, 2000. Electronic data logger at 60-minute interval November 1, 2000 to present.

DATUM.--Elevation of land-surface datum is about 3,100 ft above NGVD 29. Measuring point: Top of extended casing, 2.00 ft above land-surface datum.

REMARKS.--No water-level record October 30, June 7-July 28, due to equipment malfunction.

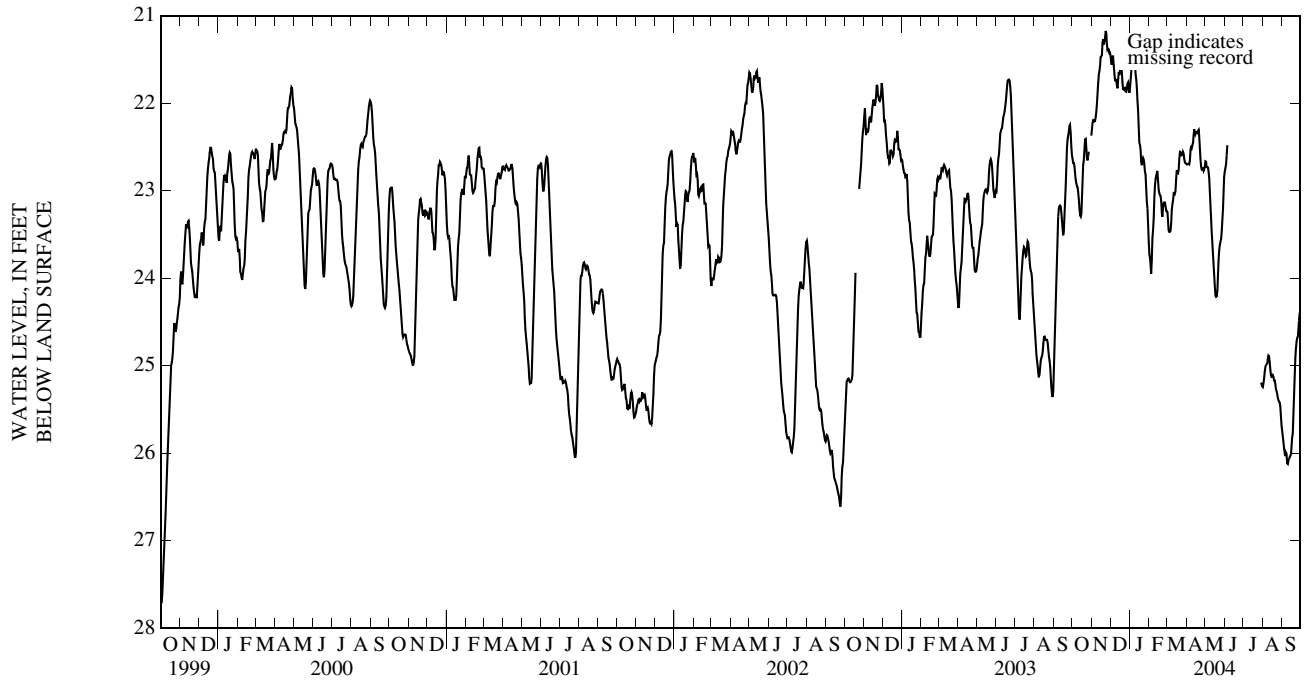
PERIOD OF RECORD.--March 1980 to current year.

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.

EXTREMES FOR CURRENT YEAR.--Highest water level, 21.13 ft below land-surface datum, Nov. 24; lowest, 26.15 ft below land-surface datum, Sept. 10.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	22.78	22.21	21.41	21.50	23.95	23.48	22.70	22.71	22.52	---	25.02	25.99
10	22.97	21.95	21.69	21.63	22.98	23.16	22.50	23.18	---	---	24.89	26.15
15	23.31	21.51	21.68	22.14	22.78	23.00	22.36	23.86	---	---	25.13	26.02
20	22.65	21.34	21.71	22.72	23.07	22.71	22.30	24.21	---	---	25.18	25.41
25	22.66	21.27	21.84	22.76	23.14	22.61	22.74	23.60	---	---	25.36	24.69
EOM	22.39	21.43	21.87	23.49	23.24	22.68	22.73	22.87	---	25.21	25.65	24.32



WYOMING COUNTY

373839081255201. Local number, Wyo-0148.

LOCATION.--Lat 37°38'39", long 81°25'52", NAD 27, Hydrologic Unit 05070101, at Twin Falls State Park.

AQUIFER.--New River Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 80 ft, cased with steel to 28 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch January 25, 1977, to September 27, 2000. Electronic data logger and satellite telemetry at 60-minute interval, October 2, 2000 to present.

DATUM.--Elevation of land-surface datum is about 2,015 ft above NGVD 29. Measuring point: Top edge of recorder shelter floor, 3.39 ft above land-surface datum. Prior to September 27, 2000, measuring point was top edge of recorder shelter floor, 2.62 ft above land-surface datum.

REMARKS.--Aquifer test data available. Water-level record affected by nearby pumping at times. No water-level record February 22- March 23 due to equipment malfunction.

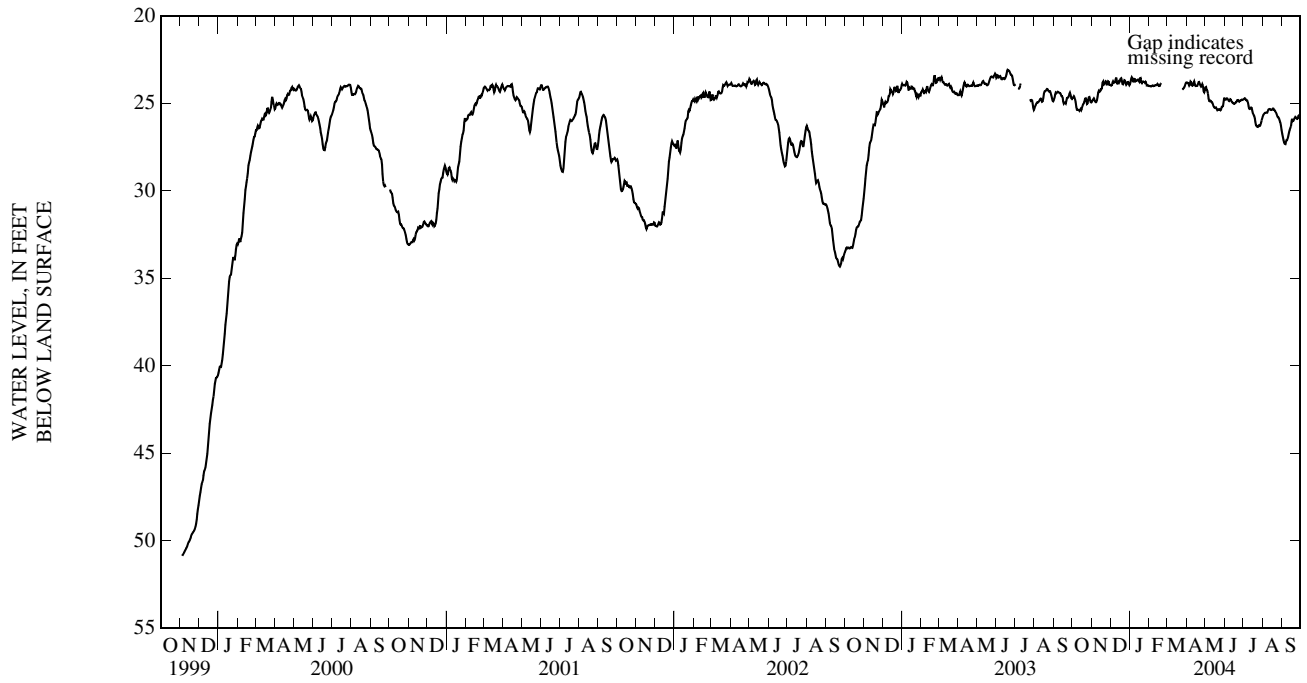
PERIOD OF RECORD.--December 1976 to current year.

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.

EXTREMES FOR CURRENT YEAR.--Highest water level, 23.31 ft below land-surface datum, Dec. 10; lowest, 27.33 ft below land-surface datum, Sept. 7.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 1200 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	24.74	24.69	23.67	23.48	24.02	---	23.95	24.26	24.69	24.77	25.52	27.29
10	25.34	24.74	23.46	23.71	23.96	---	24.01	24.83	24.78	25.26	25.39	27.08
15	25.36	24.25	23.82	23.65	23.86	---	24.00	25.20	24.98	25.29	25.37	26.37
20	25.01	23.92	23.82	23.84	23.77	---	23.83	25.39	24.94	25.93	25.39	25.96
25	25.07	23.89	23.73	23.83	---	24.23	24.03	25.40	24.89	26.32	25.77	25.89
EOM	24.93	23.93	23.95	23.99	---	23.82	24.31	24.73	24.80	25.92	26.40	25.73



Site Descriptions for Ambient Ground-Water-Quality Network
Multiple Sites

REMARKS.--During 2004, 30 wells were sampled as part of an ongoing study of the ambient ground-water quality in West Virginia. Samples included field determinations, major ions, nutrients, bacteria, metals, volatile organic compounds, and radon. One or more volatile organic compounds were detected at 9 of 30 sites. At selected sites (indicated by an asterisk [*]), pesticides were measured,and one or more pesticides were detected at three of these 10 sites. Values in the table that report detections of VOC or pesticides are **shown in bold.**

Station Number	Site Name	Latitude	Longitude	County
384817081453001*	Jac-0167	Lat 38°48'17",	long 81°45'30",	Jackson County.
392407081271002*	Woo-0159	Lat 39°24'00",	long 81°27'00",	Wood County.
393911080513702	Wet-0132	Lat 39°39'11",	long 80°51'37",	Wetzel County.
392831080513101	Tyl-0092	Lat 39°28'31",	long 80°51'31",	Tyler County.
391936080473501	Dod-0066	Lat 39°19'36",	long 80°47'35",	Doddridge County.
392831080595001	Tyl-0093	Lat 39°28'31",	long 80°59'50",	Tyler County.
380410082304001	Way-0146	Lat 38°04'10",	long 82°30'40",	Wayne County.
372649081524101	Mcd-0202	Lat 37°26'49",	long 81°52'41",	McDowell County.
373853082075401	Mig-0142	Lat 37°38'53",	long 82°07'54",	Mingo County.
392148077444201	Jef-0640	Lat 39°21'48",	long 77°44'42",	Jefferson County.
392107078060301*	Ber-0838	Lat 39°21'07",	long 78°06'03",	Berkeley County.
393436077544301*	Ber-0839	Lat 39°34'36",	long 77°54'43",	Berkeley County.
393437078160901	Mrg-0085	Lat 39°34'37",	long 78°16'09",	Morgan County.
392858078131601	Mrg-0086	Lat 39°28'58",	long 78°13'16",	Morgan County.
391758078003901*	Jef-0641	Lat 39°17'58",	long 78°00'39",	Jefferson County.
381515081560201	Lin-0182	Lat 38°15'15",	long 81°56'02",	Lincoln County.
381846081531901	Lin-0183	Lat 38°18'46",	long 81°53'19",	Lincoln County.
381504081541301	Lin-0184	Lat 38°15'04",	long 81°54'13",	Lincoln County.
381417082145801	Lin-0185	Lat 38°14'17",	long 82°14'58",	Lincoln County.
382008080292801	Web-0167	Lat 38°20'08",	long 80°29'28",	Webster County.
381708080570201*	Nic-0221	Lat 38°17'08",	long 80°57'02",	Nicholas County.
375357080380301*	Grb-0228	Lat 37°53'57",	long 80°38'03",	Greenbrier County.
384726081392001*	Jac-0168	Lat 38°47'26",	long 81°39'20",	Jackson County.
385305081554501*	Mas-0966	Lat 38°53'05",	long 81°55'45",	Mason County.
385743082053401	Mas-0967	Lat 38°57'43",	long 82°05'34",	Mason County.
371958081285301*	Mcd-0048	Lat 37°19'58",	long 81°28'53",	McDowell County.
375719080430601	Grb-0290	Lat 37°57'19",	long 80°43'06",	Greenbrier County.
375958080450601	Grb-0172	Lat 37°59'58",	long 80°45'06",	Greenbrier County.
392909081054801	Tyl-0094	Lat 39°29'09",	long 81°05'48",	Tyler County.
384922081334101	Jac-0169	Lat 38°49'22",	long 81°33'41",	Jackson County.

Station number	Date	Time	County	Geologic unit	Depth of well, feet below LSD (72008)	Altitude of land surface feet (72000)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)
384817081453001	05-03-04	1400	JACKSON	317DKRD	150	580	<1.0	752	1.5	E.2	--
392407081271002	05-04-04	1000	WOOD	111ALVM	85	630	<1.0	753	36	E.6	--
393911080513702	05-04-04	1430	WETZEL	111ALVM	58	630	<1.0	750	99	1.9	19
392831080513101	05-05-04	1045	TYLER	317DKRD	109.5	720	<1.0	746	11	E.4	--
391936080473501	05-05-04	1430	DODDRIDGE	317DKRD	70	780	<1.0	743	3.1	E.2	--
392831080595001	05-06-04	1215	TYLER	317DKRD	30	670	<1.0	748	169	3.0	30
380410082304001	05-11-04	1215	WAYNE	327PSVL	102	640	<1.0	754	5.7	E.1	--
372649081524101	05-12-04	1430	MCDOWELL	327PSVL	100	1070	<1.0	742	20	E.2	--
373853082075401	05-13-04	1030	MINGO	327PSVL	200	1390	<1.0	750	41	1.6	16
392148077444201	05-17-04	1515	JEFFERSON	377TMSN	100	300	<1.0	764	95	5.8	56
392107078060301	05-18-04	1000	BERKELEY	374ELBK	186	727	<1.0	752	119	7.7	74
393436077544301	05-18-04	1415	BERKELEY	367BKMN	115	480	<1.0	756	42	7.9	76
393437078160901	05-19-04	1015	MORGAN	351TNLY	219	830	<1.0	746	17	13.0	128
392858078131601	05-19-04	1500	MORGAN	341DVNUM	186	1010	2.4	742	114	E.8	--
391758078003901	05-20-04	1145	JEFFERSON	361MRBG	185	549	48	759	44	1.6	16
381515081560201	06-01-04	1600	LINCOLN	321CNMG	80	780	1.5	740	.6	E.2	--
381846081531901	06-02-04	1115	LINCOLN	321CNMG	140	940	21	740	55	4.0	45
381504081541301	06-02-04	1530	LINCOLN	321CNMG	50	780	<1.0	743	77	E.8	--
381417082145801	06-03-04	1145	LINCOLN	321CNMG	44	730	2.0	751	77	E.7	--
382008080292801	06-07-04	1500	WEBSTER	327KNWH	80	3100	650	690	17	1.1	11
381708080570201	06-08-04	1000	NICHOLAS	327PSVL	223	1326	2.5	734	61	E.9	--
375357080380301	06-08-04	1530	GREENBRIER	331MCCK	170	2460	3.0	706	6.2	1.8	18
384726081392001	06-14-04	1230	JACKSON	317DKRD	220	660	4.0	749	1.6	1.7	18
385305081554501	06-15-04	1130	MASON	111ALVM	56	583	3.0	750	51	1.6	17
385743082053401	06-15-04	1445	MASON	111ALVM	72	620	3.0	750	75	3.7	36
371958081285301	06-17-04	1300	MCDOWELL	331MCCK	70	1500	1.9	729	9.3	E.2	--
375719080430601	06-22-04	1115	GREENBRIER	327PSVL	220	3446	2.3	676	105	1.9	20
375958080450601	06-22-04	1445	GREENBRIER	331BLPR	74	2380	1.4	703	54	1.2	12
392909081054801	06-23-04	1145	TYLER	111ALVM	47	615	<1.0	748	39	E.9	--
384922081334101	06-23-04	1615	JACKSON	317DKRD	440	656	<1.0	748	6.0	<.4	--

Station number	Date	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Noncarb hard-ness, wat unf lab, mg/L as CaCO3 (00903)	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	Potas-sium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, unfltrd recover-able, mg/L (00929)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Acidity water, unfltrd heated, mg/L as H+ (71825)	Acidity water, unfltrd mg/L as CaCO3 (00435)
384817081453001	05-03-04	8.7	1190	13.7	--	1.9	.28	.6	280	403	<.1	--
392407081271002	05-04-04	7.0	673	14.7	109	103	9.5	1.4	20	187	.4	20
393911080513702	05-04-04	6.4	482	14.4	56	60	8.5	1.4	20	129	.6	30
392831080513101	05-05-04	7.6	784	14.9	--	28	5.4	1.8	130	220	.1	5.0
391936080473501	05-05-04	7.9	247	14.0	--	17	3.1	1.0	33	128	<.1	--
392831080595001	05-06-04	5.1	70	14.3	6	4.3	1.6	.8	4.9	11	.4	20
380410082304001	05-11-04	7.7	438	14.6	--	13	2.4	2.6	77	149	.1	5.0
372649081524101	05-12-04	7.1	315	14.0	--	10	2.6	1.7	52	130	.2	9.9
373853082075401	05-13-04	6.9	731	14.9	--	41	12	2.6	84	167	.4	20
392148077444201	05-17-04	6.8	726	13.7	65	85	39	2.3	7.2	308	.4	20
392107078060301	05-18-04	6.7	729	12.6	52	85	36	1.8	4.2	309	.5	25
393436077544301	05-18-04	6.8	637	13.2	184	101	17	1.5	2.7	138	.3	15
393437078160901	05-19-04	7.3	502	13.8	47	51	23	.8	5.7	175	.1	5.0
392858078131601	05-19-04	6.3	252	13.8	--	12	15	.7	12	117	.6	30
391758078003901	05-20-04	6.9	650	14.1	124	97	15	1.7	23	180	.4	20
381515081560201	06-01-04	9.0	666	15.0	--	1.5	.25	1.0	160	315	<.1	--
381846081531901	06-02-04	6.8	460	19.1	14	61	10	2.3	8.5	180	.4	20
381504081541301	06-02-04	6.4	237	11.8	--	33	3.4	1.4	8.7	100	.1	5.0
381417082145801	06-03-04	6.5	373	12.7	8	42	6.7	1.6	19	125	.3	15
382008080292801	06-07-04	5.9	48	11.3	12	3.7	2.4	1.2	.2	7	.3	15
381708080570201	06-08-04	6.5	286	14.2	--	18	4.4	4.1	28	100	.2	9.9
375357080380301	06-08-04	7.6	283	12.2	2	34	11	.6	8.4	128	<.1	--
384726081392001	06-14-04	8.7	897	16.8	--	.86	.14	.5	220	413	<.1	--
385305081554501	06-15-04	6.8	381	16.3	89	85	10	1.1	8.2	165	.3	15
385743082053401	06-15-04	6.5	555	13.8	59	60	7.9	1.0	3.9	123	.4	20
371958081285301	06-17-04	7.5	352	15.0	--	34	7.5	.6	28	152	.1	5.0
375719080430601	06-22-04	5.9	96	12.5	--	11	3.6	.7	2.2	43	.2	9.9
375958080450601	06-22-04	6.0	333	13.1	15	11	3.6	1.0	21	28	.5	25
392909081054801	06-23-04	6.7	459	18.3	54	49	7.9	2.3	21	101	.2	9.9
384922081334101	06-23-04	8.3	1340	16.9	--	1.5	.32	.5	330	623	<.1	--

Station number	Date	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Carbon-ate, wat flt incrm. titr., field, mg/L (00452)	Bromide water, fltrd, mg/L (71870)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat unf mg/L (00500)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia water unfltrd mg/L (71845)	Ammonia water, unfltrd mg/L as N (00610)
384817081453001	05-03-04	381	450	13	.74	140	3.1	16	705	709	.17	.13
392407081271002	05-04-04	231	282	<1	.11	31	.2	54	415	413	--	<.01
393911080513702	05-04-04	124	151	<1	.11	24	.3	70	298	297	.03	.02
392831080513101	05-05-04	211	257	<1	1.0	109	.4	7.0	437	433	.28	.22
391936080473501	05-05-04	120	146	<1	<.05	3.8	.2	.57	145	151	.09	.07
392831080595001	05-06-04	9	11	<1	.14	3.0	<.1	8.5	55	57	--	<.01
380410082304001	05-11-04	145	177	<1	.36	48	.6	<.07	248	245	.73	.57
372649081524101	05-12-04	124	151	<1	.20	20	.3	.78	178	178	.26	.20
373853082075401	05-13-04	164	200	<1	.42	77	.2	73	417	409	.58	.45
392148077444201	05-17-04	315	384	<1	<.10	15	.1	55	422	427	--	<.01
392107078060301	05-18-04	346	416	<1	.06	14	.2	27	419	402	--	<.01
393436077544301	05-18-04	310	378	<1	.05	6.8	.1	7.1	282	358	--	<.01
393437078160901	05-19-04	176	214	<1	<.05	17	<.1	27	285	275	.03	.02
392858078131601	05-19-04	98	119	<1	.12	6.6	.2	1.4	139	133	--	<.01
391758078003901	05-20-04	290	354	<1	.05	30	.2	24	551	375	--	<.01
381515081560201	06-01-04	300	--	--	.22	26	1.3	1.4	390	384	.21	.16
381846081531901	06-02-04	171	208	<1	.05	5.8	<.1	30	276	252	.03	.02
381504081541301	06-02-04	81	99	<1	<.05	2.5	.1	15	131	132	.13	.10
381417082145801	06-03-04	110	134	<1	<.05	2.4	.2	54	231	223	.17	.13
382008080292801	06-07-04	19	23	<1	<.05	.4	<.1	2.8	945	19	.18	.14
381708080570201	06-08-04	108	132	<1	.14	23	.2	.88	148	146	.67	.52
375357080380301	06-08-04	120	146	<1	<.05	4.6	.1	15	159	159	--	<.01
384726081392001	06-14-04	335	--	--	.12	20	3.9	37	530	542	.13	.10
385305081554501	06-15-04	153	187	<1	.05	5.6	.2	21	229	222	--	<.01
385743082053401	06-15-04	162	198	<1	.26	14	.2	61	357	365	--	<.01
371958081285301	06-17-04	142	173	<1	<.05	10	.2	17	199	193	.26	.20
375719080430601	06-22-04	41	50	<1	<.05	.3	.1	6.5	65	60	--	<.01
375958080450601	06-22-04	96	117	<1	.11	45	<.1	5.7	178	125	.31	.24
392909081054801	06-23-04	100	122	<1	.12	35	.2	61	276	259	.03	.02
384922081334101	06-23-04	630	690	22	.45	82	4.7	.32	826	824	.13	.10

Station number	Date	Nitrate water unfltrd mg/L as N (00620)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Phos-phorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	E coli, NA-MUG MF, water, col/ 100 mL (50278)	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)	Total coli-form, M-Endo, immed, col/ 100 mL (31501)	Alum-inum, water, unfltrd recover-able, ug/L (01105)	Anti-mony, water, unfltrd ug/L (01097)	Arsenic water unfltrd ug/L (01002)
384817081453001	05-03-04	--	<.02	<.01	.02	.5	<1	<1	<1	11	<1	7
392407081271002	05-04-04	--	3.6	<.01	<.02	.3	<1	<1	<1	<3	<1	<4
393911080513702	05-04-04	--	2.4	<.01	.04	.3	<1	<1	<1	<3	<1	<4
392831080513101	05-05-04	.04	.05	.01	<.02	.4	<1	<1	E3	3	<1	6
391936080473501	05-05-04	--	<.02	<.01	<.02	.2	<1	<1	<1	3	<1	6
392831080595001	05-06-04	--	2.5	<.01	.04	.2	<1	<1	<1	16	<1	<4
380410082304001	05-11-04	--	<.02	<.01	.03	1.1	<1	<1	<1	<3	<1	<4
372649081524101	05-12-04	--	<.02	<.01	.13	1.1	<1	<1	<1	<3	<1	<4
373853082075401	05-13-04	--	<.02	<.01	.06	.6	<1	<1	<1	<3	<1	<4
392148077444201	05-17-04	--	.14	<.01	<.02	2.1	<1	<1	<1	<3	<1	<4
392107078060301	05-18-04	--	8.3	<.01	<.02	2.7	<1	<1	220	<3	<1	<4
393436077544301	05-18-04	--	6.4	<.01	<.02	2.6	<1	<1	42	4	<1	<4
393437078160901	05-19-04	--	<.02	<.01	<.02	<.1	--	--	--	<3	<1	<4
392858078131601	05-19-04	--	<.02	<.01	.06	<.1	<1	<1	<1	<3	<1	8
391758078003901	05-20-04	1.09	1.1	.01	.11	<.1	<1	E1	E4	2600	<1	<4
381515081560201	06-01-04	--	<.02	<.01	.06	.6	<1	<1	E5	10	<1	<4
381846081531901	06-02-04	--	1.5	<.01	.08	3.4	<1	<1	45	414	<1	<4
381504081541301	06-02-04	--	<.02	<.01	.03	.6	<1	<1	31	6	<1	<4
381417082145801	06-03-04	--	<.02	<.01	.05	.1	<1	<1	E10	<3	<1	<4
382008080292801	06-07-04	--	.03	.05	.64	.5	<1	<1	<1	25800	<1	5
381708080570201	06-08-04	--	<.02	<.01	.08	.7	<1	<1	<1	<3	<1	<4
375357080380301	06-08-04	--	.10	<.01	.03	.2	<1	<1	<1	<3	<1	5
384726081392001	06-14-04	--	<.02	<.01	.04	.8	<1	<1	<1	5	<1	<4
385305081554501	06-15-04	--	.66	<.01	<.02	.7	<1	<1	<1	<3	<1	<4
385743082053401	06-15-04	--	11	<.01	<.02	.4	<1	<1	E5	<3	<1	<4
371958081285301	06-17-04	--	<.02	<.01	.03	1.0	<1	<1	E17	4	<1	<4
375719080430601	06-22-04	--	<.02	<.01	<.02	.7	E1	<1	48	<3	<1	<4
375958080450601	06-22-04	--	<.02	.01	.30	.7	<1	<1	<1	7	<1	5
392909081054801	06-23-04	--	.69	<.01	<.02	1.0	<1	<1	E10	<3	<1	<4
384922081334101	06-23-04	--	<.02	<.01	.03	32	<1	<1	270	<3	<1	<4

Station number	Date	Barium, water, unfltrd recover -able, ug/L (01007)	Beryll- ium, water, unfltrd recover -able, ug/L (01012)	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, unfltrd recover -able, ug/L (01034)	Cyanide water unfltrd mg/L (00720)	Iron, water, unfltrd recover -able, ug/L (01045)	Lead, water, unfltrd recover -able, ug/L (01051)	Mangan- ese, water, unfltrd recover -able, ug/L (01055)	Mercury water, unfltrd recover -able, ug/L (71900)	Nickel, water, unfltrd recover -able, ug/L (01067)	Selen- ium, water, unfltrd ug/L (01147)
384817081453001	05-03-04	150	<1	<.5	<1	<.01	9	<2	7	<.1	<1	<4
392407081271002	05-04-04	60	<1	<.5	<1	<.01	<2	<2	36	<.1	<1	<4
393911080513702	05-04-04	59	<1	<.5	<1	<.01	<2	<2	11	<.1	<1	<4
392831080513101	05-05-04	510	<1	<.5	<1	<.01	90	<2	65	<.1	<1	<4
391936080473501	05-05-04	330	<1	<.5	<1	<.01	74	<2	77	<.1	<1	<4
392831080595001	05-06-04	60	<1	<.5	<1	<.01	30	<2	18	<.1	3	<4
380410082304001	05-11-04	380	<1	<.5	<1	<.01	214	<2	17	<.1	<1	<4
372649081524101	05-12-04	360	<1	<.5	<1	<.01	1110	<2	163	<.1	<1	<4
373853082075401	05-13-04	520	<1	<.5	<1	<.01	2340	<2	328	<.1	<1	<4
392148077444201	05-17-04	54	<1	.7	<1	<.01	16	3	28	<.1	<1	<4
392107078060301	05-18-04	66	<1	<.5	<1	<.01	<2	<2	<1	<.1	<1	<4
393436077544301	05-18-04	38	<1	<.5	<1	<.01	8	<2	<1	<.1	<1	<4
393437078160901	05-19-04	76	<1	<.5	<1	<.01	152	<2	17	<.1	<1	<4
392858078131601	05-19-04	150	<1	<.5	<1	<.01	3370	<2	1190	<.1	<1	<4
391758078003901	05-20-04	75	<1	<.5	10	<.01	5420	3	146	<.1	8	<4
381515081560201	06-01-04	59	<1	<.5	<1	<.01	52	<2	4	<.1	<1	<4
381846081531901	06-02-04	220	<1	.5	8	<.01	593	4	667	<.1	7	<4
381504081541301	06-02-04	110	<1	<.5	<1	<.01	2390	<2	607	<.1	<1	<4
381417082145801	06-03-04	64	<1	<.5	<1	<.01	5230	<2	450	<.1	<1	<4
382008080292801	06-07-04	110	<1	2.2	30	<.01	29700	71	631	.8	60	<4
381708080570201	06-08-04	980	<1	<.5	<1	<.01	4050	<2	291	<.1	<1	<4
375357080380301	06-08-04	190	<1	<.5	<1	<.01	3	<2	<1	<.1	<1	<4
384726081392001	06-14-04	56	<1	<.5	<1	<.01	5	<2	3	<.1	<1	<4
385305081554501	06-15-04	55	<1	<.5	<1	<.01	8	<2	1	<.1	<1	<4
385743082053401	06-15-04	47	<1	<.5	<1	<.01	8	<2	<1	<.1	<1	<4
371958081285301	06-17-04	950	<1	<.5	<1	<.01	84	<2	29	<.1	<1	<4
375719080430601	06-22-04	88	<1	<.5	<1	<.01	208	<2	25	<.1	2	<4
375958080450601	06-22-04	330	<1	1.7	<1	<.01	39400	<2	810	<.1	3	<4
392909081054801	06-23-04	40	<1	<.5	<1	<.01	55	<2	281	<.1	<1	<4
384922081334101	06-23-04	87	<1	<.5	<1	<.01	9	<2	3	<.1	<1	<4

Station number	Date	Thallium, water, unfltrd ug/L (01059)	Zinc, water, unfltrd recoverable, ug/L (01092)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)
384817081453001	05-03-04	<2	3	<.006	<.006	<.006	<.005	<.005	<.007	<.050	<.010	<.004
392407081271002	05-04-04	<2	5	<.006	<.006	<.006	<.005	<.005	<.007	<.050	<.010	<.004
393911080513702	05-04-04	<2	8	--	--	--	--	--	--	--	--	--
392831080513101	05-05-04	<2	8	--	--	--	--	--	--	--	--	--
391936080473501	05-05-04	<2	7	--	--	--	--	--	--	--	--	--
392831080595001	05-06-04	<2	12	--	--	--	--	--	--	--	--	--
380410082304001	05-11-04	<2	9	--	--	--	--	--	--	--	--	--
372649081524101	05-12-04	<2	10	--	--	--	--	--	--	--	--	--
373853082075401	05-13-04	<2	3	--	--	--	--	--	--	--	--	--
392148077444201	05-17-04	<2	200	--	--	--	--	--	--	--	--	--
392107078060301	05-18-04	<2	4	<.006	**E.006**	<.006	<.005	<.005	**.007**	<.050	<.010	<.004
393436077544301	05-18-04	<2	3	<.006	**E.006**	<.006	<.005	<.005	**E.006**	<.050	<.010	<.004
393437078160901	05-19-04	<2	2	--	--	--	--	--	--	--	--	--
392858078131601	05-19-04	<2	3	--	--	--	--	--	--	--	--	--
391758078003901	05-20-04	<2	10	<.006	**E.040**	<.006	<.005	<.005	**.045**	<.050	<.010	<.004
381515081560201	06-01-04	<2	<2	--	--	--	--	--	--	--	--	--
381846081531901	06-02-04	<2	382	--	--	--	--	--	--	--	--	--
381504081541301	06-02-04	<2	5	--	--	--	--	--	--	--	--	--
381417082145801	06-03-04	<2	16	--	--	--	--	--	--	--	--	--
382008080292801	06-07-04	<2	971	--	--	--	--	--	--	--	--	--
381708080570201	06-08-04	<2	3	<.006	<.006	<.006	<.005	<.005	<.007	<.050	<.010	<.004
375357080380301	06-08-04	<2	<2	<.006	<.006	<.006	<.005	<.005	<.007	<.050	<.010	<.004
384726081392001	06-14-04	<2	130	<.006	<.006	<.006	<.005	<.005	<.007	<.050	<.010	<.004
385305081554501	06-15-04	<2	4	<.006	<.006	<.006	<.005	<.005	<.007	<.050	<.010	<.004
385743082053401	06-15-04	<2	6	--	--	--	--	--	--	--	--	--
371958081285301	06-17-04	<2	3	<.006	<.006	<.006	<.005	<.005	<.007	<.050	<.010	<.004
375719080430601	06-22-04	<2	24	--	--	--	--	--	--	--	--	--
375958080450601	06-22-04	<2	47	--	--	--	--	--	--	--	--	--
392909081054801	06-23-04	<2	2	--	--	--	--	--	--	--	--	--
384922081334101	06-23-04	<2	34	--	--	--	--	--	--	--	--	--

Station number	Date	1,1,1-Tri-chloro-ethane, water, unfltrd ug/L (34506)	1,1-Di-chloro-ethane, water unfltrd ug/L (34496)	1,4-Di-chloro-benzene water unfltrd ug/L (34571)	Di-ethyl ether, water, unfltrd ug/L (81576)	Diiso-propyl ether, water, unfltrd ug/L (81577)	Methyl t-butyl ether, water, unfltrd ug/L (78032)	Toluene water unfltrd ug/L (34010)	Tri-chloro-methane water unfltrd ug/L (32106)	Rn-222, water, unfltrd pCi/L (82303)
384817081453001	05-03-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	1040
392407081271002	05-04-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	**1.7**	290
393911080513702	05-04-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	770
392831080513101	05-05-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	920
391936080473501	05-05-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	1370
392831080595001	05-06-04	**.1**	<.1	<.1	<.2	<.2	<.2	<.1	<.1	1760
380410082304001	05-11-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	80
372649081524101	05-12-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	160
373853082075401	05-13-04	<.1	<.1	<.1	<.2	<.2	**.9**	<.1	<.1	60
392148077444201	05-17-04	<.1	<.1	<.1	<.2	<.2	**E.1**	<.1	**.6**	610
392107078060301	05-18-04	<.1	<.1	<.1	<.2	<.2	**E.2**	<.1	<.1	1450
393436077544301	05-18-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	980
393437078160901	05-19-04	<.1	<.1	<.1	<.2	<.2	<.2	**1.4**	<.1	340
392858078131601	05-19-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	250
391758078003901	05-20-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	220
381515081560201	06-01-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	1200
381846081531901	06-02-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	280
381504081541301	06-02-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	1520
381417082145801	06-03-04	<.1	<.1	<.1	<.2	<.2	**1.5**	<.1	<.1	2670
382008080292801	06-07-04	<.1	<.1	**.4**	<.2	<.2	<.2	<.1	<.1	100
381708080570201	06-08-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	60
375357080380301	06-08-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	1540
384726081392001	06-14-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	360
385305081554501	06-15-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	430
385743082053401	06-15-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	580
371958081285301	06-17-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	160
375719080430601	06-22-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	190
375958080450601	06-22-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	150
392909081054801	06-23-04	**.4**	**.1**	<.1	**.2**	**4.9**	<.2	<.1	<.1	440
384922081334101	06-23-04	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.1	300

Remark codes used in this table:
< -- Less than
E -- Estimated value

ORGANIC COMPOUNDS IN GROUND WATER

REMARKS.—Ground water was analyzed for all the compounds listed in the table below. Each of these compounds is identified by name and U.S. Geological Survey National Water Information System parameter code (WATSTORE Code). Method Reporting Limit (MRL) is also provided for each compound, as a concentration (µg/L). A measured or estimated concentration is shown in the preceding table for each compound detected in the samples; compounds not detected in any sample are not shown in the table.

The MRL provides an index to indicate where measurement uncertainty is increased. When an analyte is detected and all criteria for a positive result are met, the concentration is reported. If the analyte is detected at a concentration less than the MRL, an "E" code is reported with the value. An "E" code is also reported with the value if the analyte is qualitatively identified as present, but the quantitative determination is substantially more uncertain, even if the measured value is greater than the MRL. If a compound was not detected, it is recorded in U.S. Geological Survey files and in these tables as being in a concentration less than the MRL.

Samples from all wells in the network were analyzed for the compounds listed in the first table, volatile organic compounds. Samples from 10 selected wells, marked with an asterisk (*), were also analyzed for the pesticides listed in the second table.

Volatile organic compounds

WATSTORE Code	Compounds	MRL ug/L	WATSTORE Code	Compounds	MRL ug/L
77652	1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	<.1	34371	Ethylbenzene	<.1
34501	1,1-Dichloroethene	<.1	50005	Methyl tert-pentyl ether	<.2
34536	1,2-Dichlorobenzene	<.1	85795	m-Xylene plus p-xylene	<.2
32103	1,2-Dichloroethane	<.2	77135	o-Xylene	<.1
34541	1,2-Dichloropropane	<.1	77128	Styrene	<.1
34566	1,3-Dichlorobenzene	<.1	50004	tert-Butyl ethyl ether	<.1
34030	Benzene	<.1	34475	Tetrachloroethene	<.1
32101	Bromodichloromethane	<.1	32102	Tetrachloromethane	<.2
34301	Chlorobenzene	<.1	34546	trans-1,2-Dichloroethene	<.1
77093	cis-1,2-Dichloroethene	<.1	32104	Tribromomethane	<.2
32105	Dibromochloromethane	<.2	39180	Trichloroethene	<.1
34668	Dichlorodifluoromethane	<.2	34488	Trichlorofluoromethane	<.2
34423	Dichloromethane	<.2	39175	Vinyl chloride	<.2
81576	Diethyl ether	<.2			

Pesticides

WATSTORE Code	Compounds	MRL (ug/L)	WATSTORE Code	Compounds	MRL (ug/L)
82660	2,6-Diethylaniline	<.006	62166	Fipronil	<.016
49260	Acetochlor	<.006	04095	Fonofos	<.003
46342	Alachlor	<.005	39341	Lindane	<.004
34253	alpha-HCH	<.005	82666	Linuron	<.035
82686	Azinphos-methyl	<.050	39532	Malathion	<.027
82673	Benfluralin	<.010	82667	Methyl parathion	<.015
04028	Butylate	<.004	82630	Metribuzin	<.006
82680	Carbaryl	<.041	82671	Molinate	<.003
82674	Carbofuran	<.020	82684	Napropamide	<.007
38933	Chlorpyrifos	<.005	39542	Parathion	<.010
82687	cis-Permethrin	<.006	82669	Pebulate	<.004
04041	Cyanazine	<.018	82683	Pendimethalin	<.022
82682	DCPA	<.003	82664	Phorate	<.011
62170	Desulfinyl fipronil	<.012	82676	Propyzamide	<.004
39572	Diazinon	<.005	04024	Propachlor	<.025
82677	Disulfoton	<.02	82679	Propanil	<.011
82668	EPTC	<.004	82685	Propargite	<.02
82663	Ethalfluralin	<.009	82670	Tebuthiuron	<.02
82672	Ethoprop	<.005	82675	Terbufos	<.02
62169	Desulfinylfipronil amide	<.029	82681	Thiobencarb	<.010
62167	Fipronil sulfide	<.013	82678	Triallate	<.002
62168	Fipronil sulfone	<.024	82661	Trifluralin	<.009

Listed below are 14 sites that were sampled as part of a study to examine the transport of arsenic, introduced as a poultry-feed additive, through an agricultural watershed located in the headwaters of Muddy Creek, approximately 12 miles northwest of Harrisonburg, VA. The study area included 7 wells, 4 drive points, 2 stream sites, and 1 spring located in 0.463 mi^2 drainage.

Quarterly samples were collected at the sites listed below between February and November 2003. Additional samples were collected at each stream site during spring run-off periods following the application of composted poultry litter to the fields. The following tables report results of the field and laboratory determinations of water quality. Field determinations for all sites included pH, specific conductance, water, temperature, dissolved oxygen, and alkalinity. All samples were analyzed for major ions, nutrients, total arsenic, and selected arsenic species (arsenite (As III), arsenate (As V), dimethylarsenate (DMA), and monomethylarsenate (MMA)). Samples were analyzed by the USGS National Water Quality Laboratory in Denver, CO.

Station Number	Station Name	Latitude	Longitude	Site Description
Wells				
383152078570901	39S 2 (MC-04)	38°31'52"	78°57'09"	Lower Shallow Well— 12 feet deep
383152078570902	39S 9 (MC-17)	38°31'52"	78°57'09"	Lower Deep Well— 40 feet deep
383155078571201	39S 4 (MC-08)	38°31'55"	78°57'12"	Middle Shallow Well— 21 feet deep
383155078571202	39S 19 (MC-34)	38°31'55"	78°57'12"	Middle Deep Well— 47 feet deep
383211078573201	39S 16 (MC-30)	38°32'11"	78°57'32"	Single Well— 52 feet deep
383211078574001	39S 14 (MC-28)	38°32'11"	78°57'40"	Upper Shallow Well— 62 feet deep
383211078574002	39S 15 (MC-29)	38°32'11"	78°57'40"	Upper Deep Well— 99 feet deep
Drive Points				
383152078570903	39S 21 (MC-23 DP)	38°31'52"	78°57'09"	Hyporheic Zone Sample— 1.5 feet deep
383213078573702	39S 50 (MC-50 DP)	38°32'13"	78°57'37"	Hyporheic Zone Sample— 3 feet deep
Stream Sites				
0162101790	Muddy Creek Tributary 1 Tributary 2 above 771 near Singers Glen, VA	38°31'52"	78°57'09"	Downstream most sample point in study area. Collected stage and rainfall data.
0162101710	Muddy Creek Tributary 1 Tributary 2 near Gap near Singers Glen, VA	38°32'13"	78°57'37"	Stream site located upstream of fields where poultry litter is applied. Collected stage data.
Spring				
383216078572801	39SS 1	38°32'16"	78°57'28"	Discharges into stream channel between two stream sites and near MC-30.

Date	Station name	Station number	Time	Altitude of land surface feet (72000)	Gage height, feet (00065)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)
FEB 2003							
06...	MUDDY CR TRIB1 TRIB2 NR GAP NR SINGERS GLEN, VA	0162101710	1145	1626	--	1.2	728
MAY							
14...	MUDDY CR TRIB1 TRIB2 NR GAP NR SINGERS GLEN, VA	0162101710	0945	1626	6.36	--	719
JUN							
04...	MUDDY CR TRIB1 TRIB2 NR GAP NR SINGERS GLEN, VA	0162101710	1945	1626	--	--	--
04...	MUDDY CR TRIB1 TRIB2 NR GAP NR SINGERS GLEN, VA	0162101710	2045	1626	--	--	--
04...	MUDDY CR TRIB1 TRIB2 NR GAP NR SINGERS GLEN, VA	0162101710	2245	1626	--	--	--
13...	MUDDY CR TRIB1 TRIB2 NR GAP NR SINGERS GLEN, VA	0162101710	1343	1626	6.73	--	--
13...	MUDDY CR TRIB1 TRIB2 NR GAP NR SINGERS GLEN, VA	0162101710	1413	1626	--	--	--
13...	MUDDY CR TRIB1 TRIB2 NR GAP NR SINGERS GLEN, VA	0162101710	1513	1626	6.70	--	--
13...	MUDDY CR TRIB1 TRIB2 NR GAP NR SINGERS GLEN, VA	0162101710	1943	1626	6.58	--	--
JUL							
28...	MUDDY CR TRIB1 TRIB2 NR GAP NR SINGERS GLEN, VA	0162101710	1430	1626	--	--	719
NOV							
19...	MUDDY CR TRIB1 TRIB2 NR GAP NR SINGERS GLEN, VA	0162101710	0945	1626	--	--	--
19...	MUDDY CR TRIB1 TRIB2 NR GAP NR SINGERS GLEN, VA	0162101710	1330	1626	4.92	--	710

Date	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)
FEB 2003													
06...	11.1	82	6.7	--	--	142	.0	1.0	--	--	--	--	--
MAY													
14...	10.4	104	7.3	7.5	86	107	22.0	12.5	38	11.7	2.11	.1	1.05
JUN													
04...	--	--	--	7.3	99	--	--	--	44	13.0	2.81	.1	1.27
04...	--	--	--	7.0	108	--	--	--	32	8.36	2.72	.1	1.18
04...	--	--	--	7.0	69	--	--	--	31	8.65	2.17	.1	.94
13...	--	--	--	7.0	106	--	--	--	35	8.58	3.20	.1	1.05
13...	--	--	--	7.6	88	--	--	--	34	8.85	2.80	.1	.86
13...	--	--	--	7.1	70	--	--	--	29	8.22	2.14	.1	.75
13...	--	--	--	7.2	72	--	--	--	31	8.85	2.14	.1	.81
JUL													
28...	7.0	81	6.9	7.5	188	201	30.0	19.6	100	33.5	4.33	.1	1.61
NOV													
19...	--	--	--	7.4	120	--	--	--	49	15.2	2.77	.1	1.62
19...	9.5	94	6.9	7.3	76	98	15.0	11.6	32	8.55	2.56	.1	.68

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Chlor-ide, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L (00660)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Arsen-ate, water, fltrd, ug/L as As (62453)	Arsenic water unfltrd ug/L (01002)	Arsen-ite, water, fltrd, ug/L as As (62452)
FEB 2003													
06...	--	--	--	--	--	.06	.05	--	--	--	<.2	<2	<.1
MAY													
14...	33	23	.99	8.2	7.1	--	E.03	.13	--	<.02	<.2	<2	<.1
JUN													
04...	40	--	1.29	6.9	5.9	.31	.24	.35	.227	.07	<.2	E1	<.1
04...	49	--	2.31	5.3	4.7	.81	.63	.38	2.71	.88	1.3	4	.2
04...	22	--	.98	6.1	5.6	.12	.09	.41	.153	.05	<.2	<2	<.1
13...	90	--	1.74	4.9	4.9	.19	.14	E.05	--	E.01	.5	11	.8
13...	36	--	1.02	5.2	4.1	.18	.14	.39	.340	.11	.7	3	.2
13...	23	--	.98	6.0	5.0	.09	.07	.38	.190	.06	.3	E2	<.1
13...	23	--	.97	7.1	5.7	.11	.09	.29	.126	.04	<.2	<2	.1
JUL													
28...	93	89	1.31	11.0	6.8	--	<.04	.23	.064	.02	<.2	<2	<.1
NOV													
19...	39	--	2.21	8.4	7.5	1.06	.82	.92	.340	.11	.3	M	.4
19...	15	9	1.35	5.8	4.9	.12	.09	3.10	.110	.04	<.3	<2	.4

Date	Iron, water, fltrd, ug/L (01046)	Di-methyl-arsin-ate, wat flt ug/L as As (62455)	Mono-methyl-arson-ate, wat flt ug/L as As (62454)
FEB 2003			
06...	--	<.1	<.1
MAY			
14...	39	<.1	<.1
JUN			
04...	104	<.1	<.1
04...	199	<.1	.2
04...	181	<.1	<.1
13...	383	.3	.5
13...	352	.3	.5
13...	281	<.1	<.1
13...	169	.1	.2
JUL			
28...	36	<.1	<.1
NOV			
19...	115	.2	.2
19...	130	<.2	<.2

Date	Station name	Station number	Time	Altitude of land surface feet (72000)	Gage height, feet (00065)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)
FEB 2003							
05...	Muddy Cr. Trib1 Trib2 Ab 771 nr Singers Glen, VA	0162101790	1315	1515	--	7.3	723
MAY							
13...	Muddy Cr. Trib1 Trib2 Ab 771 nr Singers Glen, VA	0162101790	1000	1515	6.21	--	719
JUN							
07...	Muddy Cr. Trib1 Trib2 Ab 771 nr Singers Glen, VA	0162101790	1145	1515	--	--	--
07...	Muddy Cr. Trib1 Trib2 Ab 771 nr Singers Glen, VA	0162101790	1245	1515	--	--	--
07...	Muddy Cr. Trib1 Trib2 Ab 771 nr Singers Glen, VA	0162101790	1345	1515	--	--	--
08...	Muddy Cr. Trib1 Trib2 Ab 771 nr Singers Glen, VA	0162101790	2113	1515	--	--	--
08...	Muddy Cr. Trib1 Trib2 Ab 771 nr Singers Glen, VA	0162101790	2143	1515	--	--	--
08...	Muddy Cr. Trib1 Trib2 Ab 771 nr Singers Glen, VA	0162101790	2243	1515	--	--	--
08...	Muddy Cr. Trib1 Trib2 Ab 771 nr Singers Glen, VA	0162101790	2343	1515	--	--	--
JUL							
30...	Muddy Cr. Trib1 Trib2 Ab 771 nr Singers Glen, VA	0162101790	1240	1515	6.69	--	729
NOV							
18...	Muddy Cr. Trib1 Trib2 Ab 771 nr Singers Glen, VA	0162101790	1000	1515	6.32	--	732

Date	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)
FEB 2003													
05...	11.4	103	8.8	--	--	373	4.5	8.6	--	--	--	--	--
MAY													
13...	9.6	97	7.8	7.9	166	216	21.0	13.1	79	26.0	3.48	.1	1.76
JUN													
07...	--	--	--	7.8	192	--	--	--	93	26.6	6.38	.1	2.29
07...	--	--	--	7.5	170	--	--	--	80	22.6	5.79	.1	2.36
07...	--	--	--	E7.2	164	--	--	--	77	22.2	5.28	.1	2.23
08...	--	--	--	7.7	204	--	--	--	98	27.9	6.97	.1	2.46
08...	--	--	--	7.8	192	--	--	--	93	25.5	7.05	.1	2.51
08...	--	--	--	7.5	179	--	--	--	88	24.9	6.27	.1	2.45
08...	--	--	--	7.6	169	--	--	--	83	24.1	5.57	.1	2.28
JUL													
30...	10.5	119	8.5	8.5	302	422	26.0	19.2	170	59.7	5.30	.1	2.56
NOV													
18...	9.4	84	8.0	7.8	230	317	--	8.8	120	43.7	3.40	.1	1.71

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Chlor-ide, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L (00660)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Arsen-ate, water, fltrd, ug/L as As (62453)	Arsenic water unfltrd ug/L (01002)	Arsen-ite, water, fltrd, ug/L as As (62452)
FEB 2003													
05...	--	--	--	--	--	--	<.04	--	--	--	<.2	<2	<.1
MAY													
13...	--	62	2.41	7.5	8.1	--	E.02	1.33	.095	.03	<.2	E1	<.1
JUN													
07...	--	--	2.64	6.3	6.7	.08	.07	.94	1.02	.33	.7	E2	<.1
07...	--	--	3.41	5.5	6.5	.28	.22	1.06	1.90	.62	1.1	3	<.1
07...	74	--	2.72	6.0	7.1	.14	.10	1.09	1.35	.44	.6	E2	<.1
08...	--	--	3.34	6.4	7.4	--	<.04	1.14	.819	.27	.5	<2	<.1
08...	91	--	2.87	6.1	6.9	.12	.09	1.06	1.32	.43	.8	E1	<.1
08...	82	--	3.06	6.3	7.6	.22	.17	1.20	1.26	.41	.9	3	.1
08...	--	--	2.67	6.7	7.7	.10	.08	1.22	.813	.27	.5	E2	<.1
JUL													
30...	147	144	4.97	6.1	8.4	--	<.04	2.62	.098	.03	<.2	<2	<.1
NOV													
18...	110	102	2.51	9.1	8.3	.09	.07	1.26	.110	.04	<.3	<2	<.3

Date	Iron, water, fltrd, ug/L (01046)	Di-methyl-arsin-ate, wat flt ug/L as As (62455)	Mono-methyl-arson-ate, wat flt ug/L as As (62454)
FEB 2003			
05...	--	<.1	<.1
MAY			
13...	44	<.1	<.1
JUN			
07...	70	<.1	<.1
07...	106	<.1	.3
07...	112	<.1	<.1
08...	48	<.1	<.1
08...	83	<.1	<.1
08...	119	<.1	.4
08...	107	<.1	<.1
JUL			
30...	20	<.1	<.1
NOV			
18...	15	<.2	<.2

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL, AND MISCELLANEOUS SITES
WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
ARSENIC TRANSPORT IN MUDDY CREEK BASIN, VIRGINIA--Continued

Date	Station name	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	pH, water, unfiltrd field, std units (00400)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	pH, water, unfiltrd lab, std units (00403)	Chlor-ide, water, fltrd, mg/L (00940)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Silica, water, fltrd, mg/L (00955)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Sulfate water, fltrd, mg/L (00945)	Temper-ature, air, deg C (00020)	Ammonia water, fltrd, mg/L as N (00608)	Temper-ature, water, deg C (00010)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Hard-ness, water, mg/L as CaCO3 (00900)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Time	Depth of well, feet below LSD (72008)	Arsen-ate, water, fltrd, ug/L as As (62453)	Calcium water, fltrd, mg/L (00915)	Alti-tude of land surface feet (72000)	Arsenic water unfltrd ug/L (01002)	Magnes-ium, water, fltrd, mg/L (00925)	Tur-bidity, NTU (00076)	Arsen-ite, water, fltrd, ug/L as As (62452)	Sodium adsorp-tion ratio (00931)	Baro-metric pres-sure, mm Hg (00025)	Sodium, water, fltrd, mg/L (00930)	Iron, water, fltrd, ug/L (01046)
FEB 2003																																		
05...	39S 2(MC-04)																				1015	12.00			1517.56			6.3			723		
MAY																																		
13...	39S 2(MC-04)																				0945	12.00			1517.56			1.9			719		
JUL																																		
30...	39S 2(MC-04)																				1445	12.00			1517.56			1.9			729		
NOV																																		
18...	39S 2(MC-04)																				1015	12.00			1517.56			--			732		
FEB 2003																																		
05...		5.0	44			7.2		--			--	479		3.0		7.2		--															
MAY																																		
13...		2.1	21			6.8		7.2			446	469		11.5		12.7		230															
JUL																																		
30...		.4	4			6.8		7.3			471	523		26.0		17.6		250															
NOV																																		
18...		3.6	36			7.1		7.0			420	459		--		13.6		230															
FEB 2003																																		
05...		--	208			253		--			--	--		<.04		--		--					<.2		<2			<.1			--		
MAY																																		
13...		192	180			--		7.83			7.4	18.4		<.04		5.52		<.02					<.2		<2			<.1			<10		
JUL																																		
30...		223	214			--		7.91			8.8	17.7		<.04		4.80		<.02					<.2		<2			<.1			<8		
NOV																																		
18...		110	188			--		6.74			8.1	12.8		<.04		2.38		<.02					<.3		<2			<.3			E4		

Date	Dimethylarsinate, wat flt ug/L as As (62455)	Monomethylarsonate, wat flt ug/L as As (62454)
FEB 2003 05...	<.1	<.1
MAY 13...	<.1	<.1
JUL 30...	<.1	<.1
NOV 18...	<.2	<.2

Date	Station name	Dissolved oxygen, water, unfiltrd mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfiltrd field, std units (00400)	pH, water, unfiltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Station number	Temperature, water, deg C (00010)	Time	Depth of well, feet below LSD (72008)	Altitude of land surface feet (72000)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Sodium adsorption ratio (00931)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Sodium, water, fltrd, mg/L (00930)
FEB 2003 05...	39S 9(MC-17)	2.1	20	7.6	--	--	445	3.5	383152078570902	12.7	1250	40.00	1518.11	--	--	--	--	2.5	725	--
MAY 13...	39S 9(MC-17)	1.5	16	7.3	7.4	451	481	21.5	383152078570902	15.4	1430	40.00	1518.11	250	64.3	21.3	.1	.74	719	2.88
JUL 31...	39S 9(MC-17)	3.1	32	7.3	7.8	442	461	23.0	383152078570902	14.9	1015	40.00	1518.11	250	63.3	21.4	.1	1.2	730	3.04
NOV 18...	39S 9(MC-17)	1.5	15	7.6	7.5	412	455	--	383152078570902	13.8	1300	40.00	1518.11	240	62.1	20.3	.1	--	732	2.67

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL, AND MISCELLANEOUS SITES
WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
ARSENIC TRANSPORT IN MUDDY CREEK BASIN, VIRGINIA--Continued

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Chlor-ide, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Arsen-ate, water, fltrd, ug/L as As (62453)	Arsenic water unfltrd ug/L (01002)	Arsen-ite, water, fltrd, ug/L as As (62452)	Iron, water, fltrd, ug/L (01046)
FEB 2003													
05...	--	186	227	--	--	--	<.04	--	--	<.2	<2	<.1	--
MAY													
13...	176	196	--	7.06	7.8	24.6	<.04	1.88	<.02	<.2	<2	<.1	<10
JUL													
31...	159	215	--	6.61	8.3	24.9	<.04	.94	<.02	<.2	<2	<.1	E4
NOV													
18...	110	199	--	5.90	8.3	22.1	<.04	.59	<.02	<.3	<2	<.3	E3

Date	Di-methyl-arsin-ate, wat flt ug/L as As (62455)	Mono-methyl-arson-ate, wat flt ug/L as As (62454)
FEB 2003		
05...	<.1	<.1
MAY		
13...	<.1	<.1
JUL		
31...	<.1	<.1
NOV		
18...	<.2	<.2

Date	Station name	Station number	Time	Depth of well, feet below LSD (72008)	Alti-tude of land surface feet (72000)	Tur-bidity, NTU (00076)	Baro-metric pres-sure, mm Hg (00025)
FEB 2003							
05...	39S 21(MC-23 DP)	383152078570903	1400	3.3	1515.1	1000	725
MAY							
15...	39S 21(MC-23 DP)	383152078570903	0945	3.3	1515.1	--	720
JUL							
30...	39S 21(MC-23 DP)	383152078570903	1340	3.3	1515.1	--	--

Date	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfiltrd field, std units (00400)	pH, water, unfiltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)
FEB 2003													
05...	3.8	31	7.6	--	--	469	--	4.5	--	--	--	--	--
MAY													
15...	7.0	76	6.4	7.2	488	491	18.5	16.3	220	71.1	9.56	.1	4.41
JUL													
30...	<1.0	--	6.6	7.2	448	499	26.0	20.2	230	71.5	11.4	.1	4.19

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Chlor-ide, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L (00660)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Arsen-ate, water, fltrd, ug/L as As (62453)	Arsenic water unfiltrd ug/L (01002)	Arsen-ite, water, fltrd, ug/L as As (62452)
FEB 2003													
05...	--	--	--	--	--	4.60	3.57	--	--	--	2.4	10	3.4
MAY													
15...	229	247	7.39	8.9	7.9	2.69	2.09	<.06	1.07	.35	1.2	3	1.1
JUL													
30...	234	256	6.66	9.5	2.0	1.85	1.44	<.60	1.78	.58	1.0	2	1.0

Date	Iron, water, fltrd, ug/L (01046)	Di-methyl-arsin-ate, water, wat flt ug/L as As (62455)	Mono-methyl-arson-ate, wat flt ug/L as As (62454)
FEB 2003			
05...	--	<.1	<.1
MAY			
15...	6920	<.1	<.1
JUL			
30...	7180	<.1	<.1

Date	Station name	Station number	Time	Depth of well, feet below LSD (72008)	Altitude of land surface feet (72000)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)
FEB 2003							
05...	39S 4(MC-08)	383155078571201	1715	21.00	1523.78	30	725
MAY							
13...	39S 4(MC-08)	383155078571201	1625	21.00	1523.78	40	719
JUL							
31...	39S 4(MC-08)	383155078571201	1145	21.00	1523.78	--	730
NOV							
18...	39S 4(MC-08)	383155078571201	1430	21.00	1523.78	--	730

Date	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)
FEB 2003													
05...	4.3	40	7.4	--	--	417	3.5	9.1	--	--	--	--	--
MAY													
13...	1.7	17	7.1	7.3	398	434	22.0	12.9	200	50.9	17.2	.2	5.81
JUL													
31...	1.2	12	7.0	7.5	423	453	23.0	14.6	210	55.0	18.2	.2	7.16
NOV													
18...	3.3	33	7.4	7.4	400	436	10.5	13.6	220	56.3	18.2	.1	4.19

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Chloride, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)	Arsenate, water, fltrd, ug/L as As (62453)	Arsenic water unfltrd ug/L (01002)	Arsenite, water, fltrd, ug/L as As (62452)	Iron, water, fltrd, ug/L (01046)
FEB 2003													
05...	--	--	--	--	--	<.04	--	--	--	<.2	<2	<.1	--
MAY													
13...	165	152	9.75	8.2	16.5	<.04	5.39	.147	.05	<.2	M	<.1	<10
JUL													
31...	185	181	9.70	8.6	14.8	<.04	5.14	.092	.03	<.2	M	<.1	<8
NOV													
18...	110	174	7.95	9.1	13.5	<.04	4.68	.123	.04	<.3	<2	<.3	E6

Date	Dimethylarsinate, wat flt ug/L as As (62455)	Monomethylarsonate, wat flt ug/L as As (62454)
FEB 2003		
05...	<.1	<.1
MAY		
13...	<.1	<.1
JUL		
31...	<.1	<.1
NOV		
18...	<.2	<.2

Date	Station name	Dissolved oxygen, water, unfiltrd field, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfiltrd field, std units (00400)	pH, water, unfiltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)
FEB 2003														
07...	39S 19(MC-34)	4.6	45	7.3	--	--	388	1.5	11.6	--	--	--	--	--
MAY														
14...	39S 19(MC-34)	4.5	45	6.9	7.2	364	385	27.0	12.6	180	46.6	16.3	.1	3.15
JUL														
31...	39S 19(MC-34)	3.9	39	6.7	7.5	393	420	24.0	13.4	200	52.4	17.7	.1	3.58
NOV														
18...	39S 19(MC-34)	4.1	--	7.2	7.0	386	421	10.5	12.9	210	55.9	17.8	.1	2.79

Date	Station number	Time	Depth of well, feet below LSD (72008)	Altitude of land surface feet (72000)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)
FEB 2003						
07...	383155078571202	1030	47.0	1523.9	15	720
MAY						
14...	383155078571202	1640	47.0	1523.9	20	719
JUL						
31...	383155078571202	1315	47.0	1523.9	22	730
NOV						
18...	383155078571202	1545	47.0	1523.9	--	--

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL, AND MISCELLANEOUS SITES
WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
ARSENIC TRANSPORT IN MUDDY CREEK BASIN, VIRGINIA--Continued

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Chlor-ide, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho-phos-phate water fltrd, mg/L (00660)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Arsen-ate, water, fltrd, ug/L as As (62453)	Arsenic water unfltrd ug/L (01002)	Arsen-ite, water, fltrd, ug/L as As (62452)	Iron, water, fltrd, ug/L (01046)
FEB 2003													
07...	--	--	--	--	--	<.04	--	--	--	<.2	<2	<.1	--
MAY													
14...	144	141	7.61	8.7	13.7	<.04	6.83	.202	.07	<.2	<2	<.1	<10
JUL													
31...	165	159	7.08	9.0	10.8	<.04	7.38	.113	.04	<.2	<2	<.1	<8
NOV													
18...	171	174	6.26	9.5	10.4	<.04	5.16	.126	.04	<.3	<2	<.3	E3

Date	Di-methyl-arsin-ate, wat flt ug/L as As (62455)	Mono-methyl-arson-ate, wat flt ug/L as As (62454)
FEB 2003		
07...	<.1	<.1
MAY		
14...	<.1	<.1
JUL		
31...	<.1	<.1
NOV		
18...	<.2	<.2

Date	Station name	Station number	Time	Depth of well, feet below LSD (72008)	Alti-tude of land surface feet (72000)	Tur-bidity, NTU (00076)	Baro-metric pres-sure, mm Hg (00025)
FEB 2003							
06...	39S 16(MC-30)	383211078573201	1740	52.00	1585.9	5.7	726
MAY							
14...	39S 16(MC-30)	383211078573201	1415	52.00	1585.9	7.0	719
JUL							
30...	39S 16(MC-30)	383211078573201	1055	52.00	1585.9	8.6	725
NOV							
17...	39S 16(MC-30)	383211078573201	1730	52.00	1585.9	1.3	729

Date	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfiltrd field, std units (00400)	pH, water, unfiltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)
FEB 2003													
06...	4.1	39	7.2	--	--	424	1.0	10.9	--	--	--	--	--
MAY													
14...	2.9	29	6.8	7.1	359	372	24.0	12.7	170	41.3	16.8	.2	7.02
JUL													
30...	2.4	24	6.8	7.3	368	366	27.0	13.0	190	45.3	18.6	.2	6.16
NOV													
17...	1.2	12	7.0	7.1	372	389	12.0	13.0	190	46.5	18.8	.2	5.62

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Chlor-ide, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Arsen-ate, water, fltrd, ug/L as As (62453)	Arsenic water unfltrd ug/L (01002)	Arsen-ite, water, fltrd, ug/L as As (62452)	Iron, water, fltrd, ug/L (01046)	Di-methyl-arsin-ate, wat flt ug/L as As (62455)
FEB 2003													
06...	--	--	--	--	--	<.04	--	--	<.2	<2	<.1	--	<.1
MAY													
14...	136	154	8.82	6.8	19.5	<.04	.52	<.02	<.2	E1	<.1	<10	<.1
JUL													
30...	165	169	6.11	7.1	17.7	<.04	3.21	<.02	<.2	<2	<.1	<8	<.1
NOV													
17...	158	155	5.58	7.7	17.1	<.04	3.22	<.02	<.3	<2	<.3	<6	<.2

Date	Mono-methyl-arson-ate, wat flt ug/L as As (62454)
FEB 2003	
06...	<.1
MAY	
14...	<.1
JUL	
30...	<.1
NOV	
17...	<.2

Date	Station name	Station number	Time	Depth of well, feet below LSD (72008)	Altitude of land surface feet (72000)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)
FEB 2003							
06...	39S 14(MC-28)	383211078574001	1240	62.0	1633.1	11	728
MAY							
12...	39S 14(MC-28)	383211078574001	1645	62.0	1633.1	7.1	713
JUL							
29...	39S 14(MC-28)	383211078574001	1440	62.0	1633.1	5.3	723
NOV							
19...	39S 14(MC-28)	383211078574001	1000	62.0	1633.1	--	710

Date	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)
FEB 2003													
06...	2.6	25	7.1	--	--	442	-1.5	11.0	--	--	--	--	--
MAY													
12...	2.5	25	6.7	7.2	419	432	17.0	12.9	210	75.3	4.37	.2	5.19
JUL													
29...	1.8	19	6.7	7.1	404	428	25.0	14.9	210	75.1	4.90	.2	5.87
NOV													
19...	1.5	15	7.0	7.2	406	445	16.0	13.3	210	76.2	4.31	.2	5.56

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Chloride, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Orthophosphate, water, fltrd, mg/L as P (00671)	Arsenate, water, fltrd, ug/L as As (62453)	Arsenic water unfltrd ug/L (01002)	Arsenite, water, fltrd, ug/L as As (62452)	Iron, water, fltrd, ug/L (01046)	Dimethylarsinate, wat flt ug/L as As (62455)
FEB 2003													
06...	--	--	--	--	--	<.04	--	--	<.2	<2	<.1	--	<.1
MAY													
12...	167	121	10.0	10.1	4.7	<.04	9.50	E.01	<.2	<2	<.1	E6	<.1
JUL													
29...	166	160	8.95	9.6	4.5	<.04	9.64	E.01	<.2	<2	<.1	E6	<.1
NOV													
19...	64	157	9.30	9.7	4.6	<.04	8.96	E.02	<.3	<2	.3	19	<.2

Date	Mono-methyl-arsonate, wat flt ug/L as As (62454)
FEB 2003	
06...	<.1
MAY	
12...	<.1
JUL	
29...	<.1
NOV	
19...	<.2

Date	Station name	Dis-solved oxygen, wat flt mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfiltrd field, std units (00400)	pH, water, unfiltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)	Station number	Temper-ature, water, deg C (00010)	Time	Hard-ness, water, mg/L as CaCO3 (00900)	Depth of well, feet below LSD (72008)	Calcium water, fltrd, mg/L (00915)	Alti-tude of land surface feet (72000)	Magnes-ium, water, fltrd, mg/L (00925)	Tur-bidity, NTU (00076)	Sodium adsorp-tion ratio (00931)	Baro-metric pres-sure, mm Hg (00025)	Sodium, water, fltrd, mg/L (00930)
FEB 2003																				
06...	39S 15(MC-29)	3.8	37	7.3	--	--	371	--	383211078574002	12.0	1430	--	99	--	1633.6	--	9.1	--	728	--
MAY																				
14...	39S 15(MC-29)	3.7	38	7.2	7.0	373	394	12.0	383211078574002	13.7	1100	180	99	65.7	1633.6	4.49	1.9	.1	719	4.28
JUL																				
29...	39S 15(MC-29)	3.5	36	6.9	6.9	366	388	25.5	383211078574002	13.6	1230	200	99	71.3	1633.6	4.48	2.2	.1	723	4.19
NOV																				
19...	39S 15(MC-29)	4.1	42	7.4	7.3	347	370	14.0	383211078574002	12.7	1300	190	99	67.6	1633.6	3.97	--	.1	710	3.11

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Chlor-ide, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Arsen-ate, water, fltrd, ug/L as As (62453)	Arsenic water unfltrd ug/L (01002)	Arsen-ite, water, fltrd, ug/L as As (62452)	Iron, water, fltrd, ug/L (01046)	Di-methyl-arsin-ate, wat flt ug/L as As (62455)
FEB 2003													
06...	--	--	--	--	--	<.04	--	--	<.2	<2	<.1	--	<.1
MAY													
14...	146	152	6.46	7.9	6.1	<.04	8.71	E.01	<.2	E1	<.1	<10	<.1
JUL													
29...	161	162	5.92	8.2	5.4	<.04	7.43	E.01	<.2	<2	<.1	<8	<.1
NOV													
19...	73	155	5.11	8.4	4.9	<.04	6.01	E.02	<.3	<2	<.3	<6	<.2

Date	Mono-methyl-arson-ate, wat flt ug/L as As (62454)
FEB 2003	
06...	<.1
MAY	
14...	<.1
JUL	
29...	<.1
NOV	
19...	<.2

Date	Station name	Station number	Time	Depth of well, feet below LSD (72008)	Tur-bidity, NTU (00076)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)
FEB 2003							
07...	39S 50 (MC-50 DP)	383213078573702	1215	1.5	290	720	7.4
MAY							
15...	39S 50 (MC-50 DP)	383213078573702	0930	1.5	--	720	5.4

Date	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
FEB 2003													
07...	57	6.8	--	--	130	2.0	2.0	--	--	--	--	--	--
MAY													
15...	58	6.5	7.4	99	93	--	15.8	42	13.3	2.11	.1	1.14	38

Date	Chlor-ide, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Ortho-phos-phate, water, fltrd, mg/L as P (00660)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Arsen-ate, water, fltrd, ug/L as As (62453)	Arsenic water unfltrd ug/L (01002)	Arsen-ite, water, fltrd, ug/L as As (62452)	Iron, water, fltrd, ug/L (01046)	Di-methyl-arsin-ate, wat flt ug/L as As (62455)
FEB 2003													
07...	--	--	--	.22	.17	--	--	--	<.2	8	.3	--	<.1
MAY													
15...	1.00	8.6	6.9	--	<.04	.22	.245	.08	<.2	<2	<.1	49	<.1

Date	Mono-methyl-arson-ate, wat flt ug/L as As (62454)
FEB 2003	
07...	<.1
MAY	
15...	<.1

Date	Station name	Station number	Time	Altitude of land surface feet (72000)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)
FEB 2003							
06...	39SS 1	383216078572801	1405	1610	728	7.6	72
MAY							
14...	39SS 1	383216078572801	1520	1610	719	6.3	60
JUL							
29...	39SS 1	383216078572801	1200	1610	723	5.2	50
NOV							
17...	39SS 1	383216078572801	1600	1610	729	5.3	51

Date	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)
FEB 2003													
06...	6.8	--	--	296	1.5	10.9	--	--	--	--	--	--	--
MAY													
14...	6.9	7.3	281	360	27.0	10.9	140	51.0	3.53	.1	2.21	125	128
JUL													
29...	7.4	6.8	326	344	25.0	11.4	180	64.3	4.12	.1	2.34	154	149
NOV													
17...	7.2	7.2	291	406	14.0	11.6	160	59.1	3.58	.1	1.91	76	155

Date	Chloride, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)	Arsenate, water, fltrd, ug/L as As (62453)	Arsenic water unfltrd ug/L (01002)	Arsenite, water, fltrd, ug/L as As (62452)	Iron, water, fltrd, ug/L (01046)	Dimethylarsinate, wat flt ug/L as As (62455)	Monomethylarsonate, wat flt ug/L as As (62454)
FEB 2003													
06...	--	--	--	<.04	--	--	--	<.2	<2	<.1	--	<.1	<.1
MAY													
14...	4.10	8.7	8.4	<.04	3.19	.055	.02	<.2	<2	<.1	<10	<.1	<.1
JUL													
29...	4.86	9.4	7.7	<.04	3.28	--	E.02	<.2	<2	<.1	<8	<.1	<.1
NOV													
17...	3.88	9.1	9.0	<.04	2.04	--	E.02	<.3	<2	<.3	<6	<.2	<.2

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

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Conversion Factors

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter (mm)
	2.54×10^{-2}	meter (m)
foot (ft)	3.048×10^{-1}	meter (m)
mile (mi)	1.609×10^{0}	kilometer (km)
	Area	
acre	4.047×10^{3}	square meter (m^2)
	4.047×10^{-1}	square hectometer (hm^2)
	4.047×10^{-3}	square kilometer (km^2)
square mile (mi^2)	2.590×10^{0}	square kilometer (km^2)
	Volume	
gallon (gal)	3.785×10^{0}	liter (L)
	3.785×10^{-3}	cubic meter (m^3)
	3.785×10^{0}	cubic decimeter (dm^3)
million gallons (Mgal)	3.785×10^{3}	cubic meter (m^3)
	3.785×10^{-3}	cubic hectometer (hm^3)
cubic foot (ft^3)	2.832×10^{-2}	cubic meter (m^3)
	2.832×10^{1}	cubic decimeter (dm^3)
cubic-foot-per-second day [(ft^3/s) d]	2.447×10^{3}	cubic meter (m^3)
	2.447×10^{-3}	cubic hectometer (hm^3)
acre-foot (acre-ft)	1.233×10^{3}	cubic meter (m^3)
	1.233×10^{-3}	cubic hectometer (hm^3)
	1.233×10^{-6}	cubic kilometer (km^3)
	Flow	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter per second (L/s)
	2.832×10^{-2}	cubic meter per second (m^3/s)
	2.832×10^{1}	cubic decimeter per second (dm^3/s)
gallon per minute (gal/min)	6.309×10^{-2}	liter per second (L/s)
	6.309×10^{-5}	cubic meter per second (m^3/s)
	6.309×10^{-2}	cubic decimeter per second (dm^3/s)
million gallons per day (Mgal/d)	4.381×10^{-2}	cubic meter per second (m^3/s)
	4.381×10^{1}	cubic decimeter per second (dm^3/s)
	Mass	
ton (short)	9.072×10^{-1}	megagram (Mg) or metric ton

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

°F = (1.8 x °C) + 32