01601500 WILLS CREEK NEAR CUMBERLAND, MD

Potomac Basin
North Branch Potomac Subbasin

LOCATION.--Lat 39°40'10.6", long 78°47'16.9" referenced to North American Datum of 1983, Allegany County, MD, Hydrologic Unit 02070002, on right bank at downstream side of railway bridge, 0.15 mi downstream from Braddock Run, 2.0 mi upstream from Cumberland, and mouth.

DRAINAGE AREA.--247 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1905 to July 1906 (published as "at Cumberland"). October 1929 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1432: 1906, 1930(M), 1933-34(M), 1936-37, 1945(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 640.89 ft above National Geodetic Vertical Datum of 1929. May 6, 1905, to July 14, 1906, nonrecording gage at highway bridge 700 ft upstream at different datum. Oct. 18, 1929, to Mar. 17, 1936, water-stage recorder, and Apr. 1, 1936, to Mar. 19, 1937, nonrecording gage at site 200 ft upstream at present datum.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are poor. Records include drainage from numerous active and abandoned coal mines. An undetermined amount of water is diverted into the basin from Georges Creek basin by Hoffman drainage tunnel. Miscellaneous measurements of discharge from the Hoffman drainage tunnel have been made in the water years 1944, 1964-65, 1967-82, and 1984 by the U.S. Geological Survey, and in the water years 1958 and 1959 by the Maryland Geological Survey. Slight diurnal fluctuation at low flow caused by quarry upstream. 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 FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 1	1100	8,150	9.59
Feb 28	1615	4,040	6.91
Mar 11	0115	*10,800	*10.96
Apr 16	2115	5,220	7.77
May 18	1745	6,560	8.66
May 27	2130	6,540	8.65
Sep 9	1700	5,860	8.21

Minimum discharge, 25 ft^3/s, Aug. 30.

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 01601500, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/01601500.2011.pdf

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	428	33	5,410	98	78	2,580	439	1,000	554	75	36	48
2	157	32	2,390	147	169	1,550	415	828	420	70	36	40
3	104	31	1,210	173	245	1,060	393	686	334	67	36	44
4	81	73	794	185	219	812	366	686	278	65	37	38
5	71	155	585	192	e207	688	484	548	289	64	37	63
6	57	121	446	159	e180	1,680	479	465	230	61	41	569
7	49	96	352	e132	e159	1,860	501	415	196	59	48	2,070
8	45	79	277	e113	e140	1,430	613	374	185	67	54	775
9	40	69	227	e102	e116	1,290	870	332	168	86	49	2,440
10	36	63	183	e97	e128	6,510	871	292	157	81	43	1,660
11	33	54	185	e94	e116	6,600	822	264	150	65	40	759
12	31	49	189	e91	e107	2,670	844	237	151	58	38	458
13	29	47	213	e87	161	1,680	1,470	239	140	54	36	292
14	30	43	152	e84	242	1,220	1,350	233	130	51	53	205
15	30	43	e145	e82	395	979	1,070	311	124	50	66	247
16	30	75	e139	e80	350	967	2,350	277	120	48	60	203
17	30	244	e151	e78	569	815	3,330	2,200	123	47	45	158
18	30	192	e133	e77	1,380	730	1,920	5,510	129	45	39	139
19	36	159	e119	e82	1,560	651	2,090	4,040	123	45	47	124
20	47	138	e113	e91	968	562	2,310	2,120	139	44	54	123
21	46	120	e107	e76	1,000	556	1,680	1,340	138	43	41	119
22	38	104	e103	e66	1,030	538	1,280	958	126	42	39	107
23	35	95	e99	e64	853	861	1,330	837	110	41	34	99
24	32	84	e96	e61	737	1,470	1,290	635	102	40	32	96
25	31	127	e93	e67	1,680	1,270	1,290	510	98	40	34	88
26	31	332	e89	e74	1,770	998	1,180	422	94	41	33	81
27	34	423	86	e74	1,430	811	1,530	1,670	91	39	31	117
28	41	313	91	e71	2,690	663	2,280	3,380	105	39	28	134
29	43	221	92	e61	---	555	1,830	1,650	91	39	27	111
30	37	630	84	e62	---	481	1,310	1,030	82	39	26	97
31	34	---	86	e66	---	464	---	733	---	37	29	---
Total	1,796	4,245	14,439	2,986	18,679	45,001	37,987	34,222	5,177	1,642	1,249	11,504
Mean	57.9	142	466	96.3	667	1,452	1,266	1,104	173	53.0	40.3	383
Max	428	630	5,410	192	2,690	6,600	3,330	5,510	554	86	66	2,440
Min	29	31	84	61	78	464	366	233	82	37	26	38
Cfsm	0.23	0.57	1.89	0.39	2.70	5.88	5.13	4.47	0.70	0.21	0.16	1.55
In.	0.27	0.64	2.17	0.45	2.81	6.78	5.72	5.15	0.78	0.25	0.19	1.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 – 1906, 1930 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	129	208	335	395	496	819	673	473	231	108	84.7	96.5
Max	1,130	1,520	1,113	1,481	1,255	2,410	1,910	1,109	967	641	674	1,083
(WY)	(1943)	(1986)	(1973)	(1996)	(1971)	(1936)	(1993)	(1989)	(1972)	(1989)	(1984)	(1996)
Min	11.9	15.5	18.4	54.2	65.8	181	184	101	51.1	24.3	16.6	12.1
(WY)	(1931)	(1931)	(1944)	(1940)	(1954)	(2009)	(1968)	(1934)	(1965)	(1965)	(1930)	(1932)

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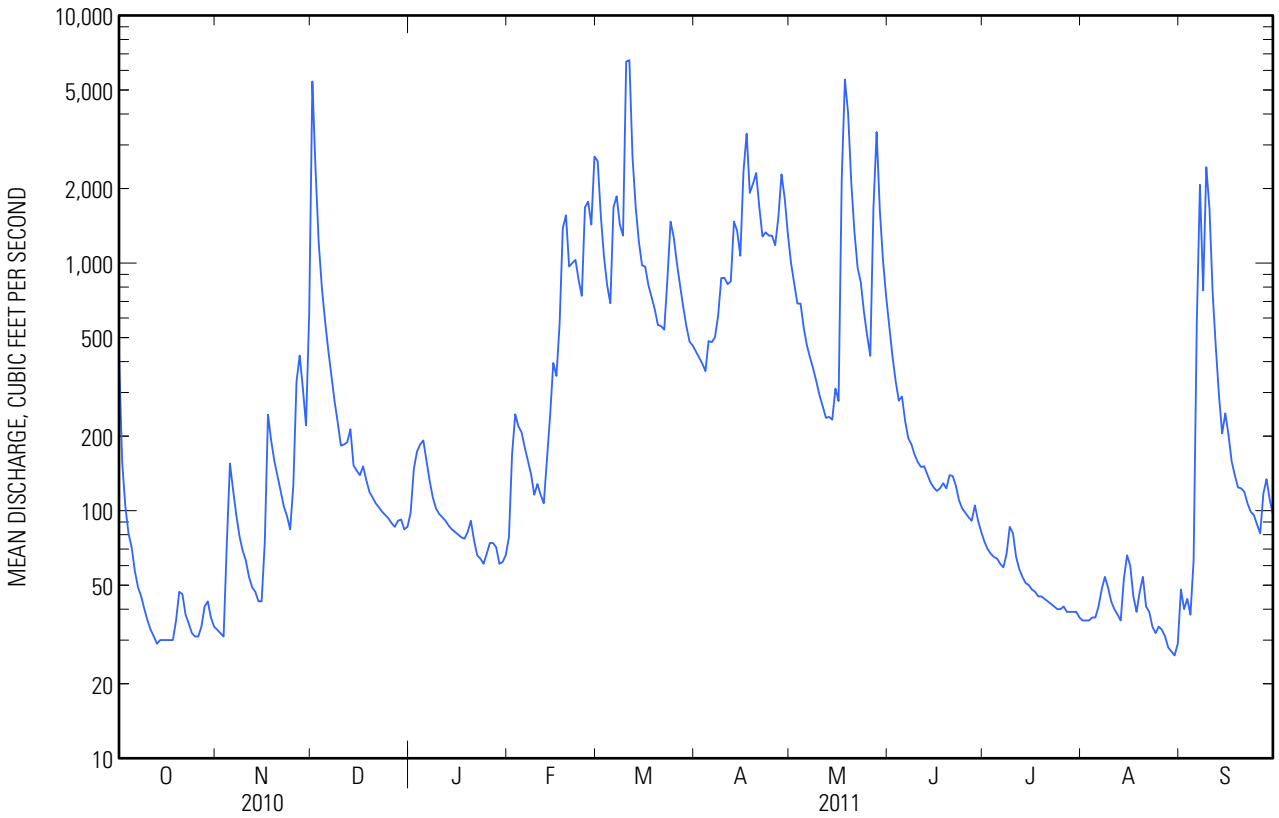
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1905 – 1906, 1930 - 2011	
Annual total	139,910		178,927			
Annual mean	383		490		337	
Highest annual mean					599	1996
Lowest annual mean					122	1954
Highest daily mean	9,330	Mar 13	6,600	Mar 11	19,200	Jan 19, 1996
Lowest daily mean	14	Sep 2[a]	26	Aug 30	10	Oct 8, 1930[b]
Annual seven-day minimum	14	Sep 2	30	Aug 25	10	Oct 8, 1930
Maximum peak flow			10,800	Mar 11	[c]45,900	Jan 19, 1996
Maximum peak stage			10.96	Mar 11	[d]23.11	Jan 19, 1996
Instantaneous low flow			25	Aug 30	9.0	Oct 14, 1930
Annual runoff (cfsm)	1.55		1.98		1.36	
Annual runoff (inches)	21.07		26.95		18.53	
10 percent exceeds	896		1,430		807	
50 percent exceeds	148		128		148	
90 percent exceeds	22		38		29	

[a] Sept. 2, 6-8.
[b] Oct. 8-10, 1930.
[c] From rating curve extended above 11,000 ft³/s on basis of slope-area measurements at gage heights of 13.45 and 20.20 ft.
[d] From floodmarks at present site.