Water-Data Report 2011

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV

Potomac Basin
North Branch Potomac Subbasin

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

DRAINAGE AREA.--221 mi^2.

SURFACE-WATER RECORDS

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

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

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 624.79 ft above NAVD 88 (GPS levels). Prior to Oct. 11, 1946, nonrecording gage on bridge 1.0 mi upstream at datum 6.14 ft higher. Oct. 11-23, 1946, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records good except those for periods of estimated daily discharges (ice effect, no gage-height record), which are poor. Since 1963, the flow from 115 mi^2 upstream from the station is partially controlled, but not diverted, by several floodwater detention reservoirs with the total combined detention capacity of 19,887 acre-ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,480 ft^3/s, May 18, gage height, 10.47 ft; minimum discharge, 4.1 ft^3/s, Jan. 3, 22, gage height, 2.45 ft.

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 01604500, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/01604500.2011.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	338	11	852	e14	19	e800	244	669	242	e24	7.1	10
2	186	11	592	e13	82	452	221	603	177	e20	7.0	10
3	106	11	435	e13	321	390	235	531	124	e17	6.6	9.5
4	70	22	346	20	270	339	243	587	87	e15	7.8	11
5	48	39	268	24	193	290	244	525	69	e19	7.7	20
6	35	39	183	20	164	353	221	467	54	e18	9.8	320
7	29	33	125	21	153	619	192	412	46	e17	13	1,190
8	23	28	95	17	155	537	183	352	41	37	15	700
9	19	24	71	12	138	483	312	295	36	118	16	536
10	17	21	54	18	144	1,110	345	228	32	83	15	448
11	14	19	45	17	110	2,030	333	169	29	53	13	381
12	13	18	43	16	93	1,200	403	126	28	36	10	391
13	11	17	41	15	81	828	1,100	127	26	28	9.0	245
14	12	15	27	e14	148	666	795	170	23	23	9.1	159
15	12	15	e26	e14	278	580	630	176	21	19	11	172
16	12	19	24	e13	222	541	825	192	19	17	9.4	129
17	11	36	e23	e13	189	489	1,560	670	22	15	10	80
18	10	36	e22	e12	187	436	975	4,890	24	13	8.3	54
19	11	35	e21	e12	180	380	1,800	2,890	100	13	7.6	40
20	11	32	e20	e12	156	326	2,670	1,480	252	12	10	38
21	11	29	e19	e12	146	e311	1,340	1,120	275	11	14	35
22	10	26	e18	12	179	308	862	762	183	10	12	30
23	10	24	e18	e11	182	327	845	908	129	9.7	10	26
24	10	22	e17	11	244	721	921	717	87	9.3	9.2	24
25	10	23	e16	e11	823	571	850	586	63	9.7	9.4	22
26	10	24	e16	e12	794	490	737	505	49	10	10	22
27	11	23	16	13	e583	424	674	616	41	9.5	10	86
28	11	22	15	e13	e680	368	1,710	535	39	8.7	13	766
29	10	20	e15	e13	---	318	1,270	450	33	8.0	13	477
30	11	35	e14	e13	---	268	808	378	e28	8.1	11	345
31	14	---	e14	e14	---	260	---	311	---	7.4	9.8	---
Total	1,106	729	3,491	445	6,914	17,215	23,548	22,447	2,379	698.4	323.8	6,776.5
Mean	35.7	24.3	113	14.4	247	555	785	724	79.3	22.5	10.4	226
Max	338	39	852	24	823	2,030	2,670	4,890	275	118	16	1,190
Min	10	11	14	11	19	260	183	126	19	7.4	6.6	9.5
Cfsm	0.16	0.11	0.51	0.06	1.12	2.51	3.55	3.28	0.36	0.10	0.05	1.02
In.	0.19	0.12	0.59	0.07	1.16	2.90	3.96	3.78	0.40	0.12	0.05	1.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	69.0	87.5	165	207	294	430	322	236	111	57.7	54.0	55.2
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	14.4	22.2	54.1	54.1	21.2	8.38	3.14	5.20	2.80
(WY)	(1992)	(1992)	(1944)	(2011)	(2002)	(2006)	(1969)	(1969)	(1999)	(1999)	(1966)	(1991)

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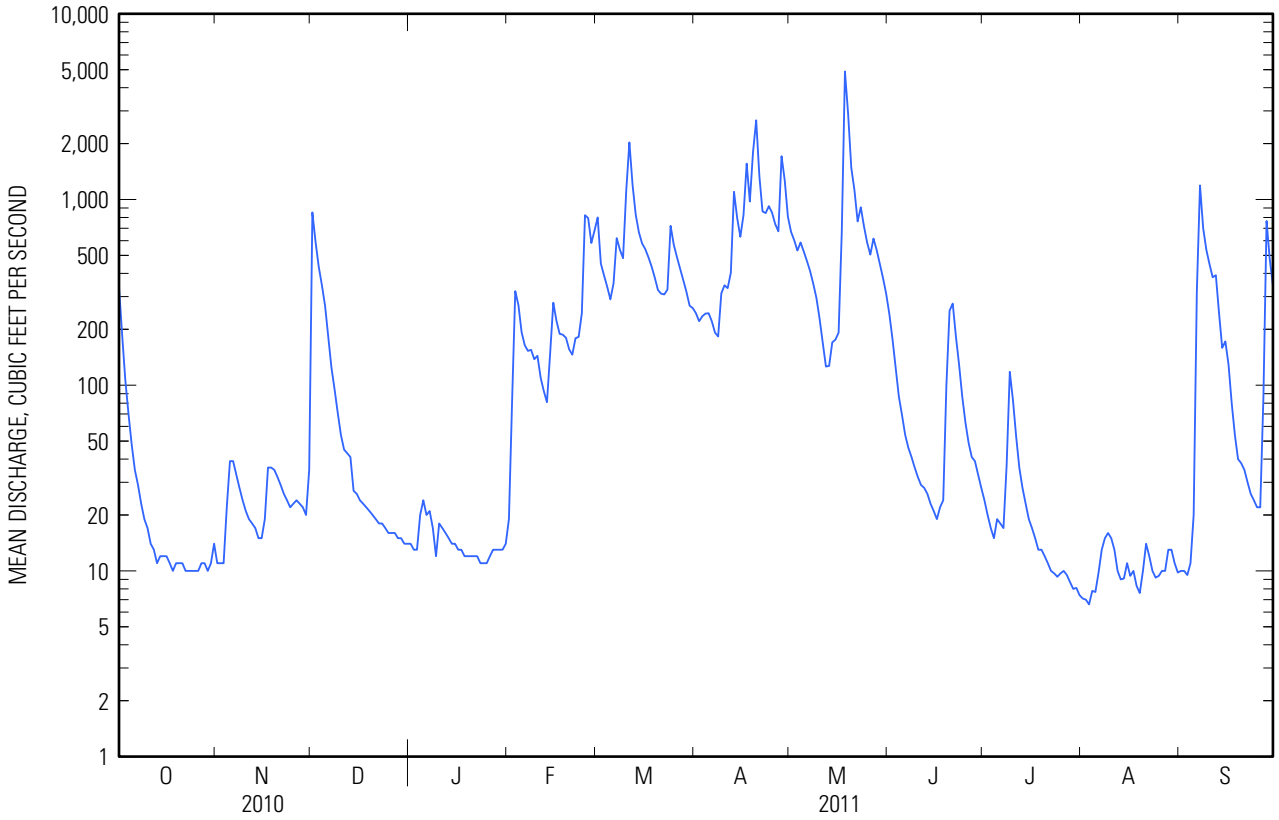
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1938 - 2011	
Annual total	62,361.0		86,072.7			
Annual mean	171		236		174	
Highest annual mean					387	1996
Lowest annual mean					35.1	1969
Highest daily mean	3,520	Mar 14	4,890	May 18	11,100	Oct 15, 1942
Lowest daily mean	3.0	Sep 7	6.6	Aug 3	0.48	Aug 23, 1999
Annual seven-day minimum	3.4	Sep 2	7.4	Jul 30	0.87	Aug 17, 1999
Maximum peak flow			6,480	May 18	[a]16,000	Aug 18, 1955
Maximum peak stage			10.47	May 18	12.20	Aug 18, 1955
Instantaneous low flow			4.1	Jan 3[b]	0.45	Aug 23, 1999[c]
Annual runoff (cfsm)	0.773		1.07		0.786	
Annual runoff (inches)	10.50		14.49		10.67	
10 percent exceeds	514		676		450	
50 percent exceeds	39		36		61	
90 percent exceeds	5.7		10		10	

[a] From rating curve extended above 4,900 ft³/s on basis of contracted-opening measurement of peak flow.
[b] Also Jan. 22.
[c] Also Aug. 24, 1999.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 2005 to current year.

COOPERATION.--This site is sampled as part of the Chesapeake Bay Program's Non-Tidal Monitoring Network in cooperation with the West Virginia Department of Environmental Protection, Division of Water and Waste Management.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 1 of 3

[%, percent; N, nitrogen; P, phosphorus; ft, feet; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than]

Date	Sample start time	Sample type	Barometric pressure, mm Hg (00025)	Discharge, instantaneous, ft³/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)	Temperature, water, °C (00010)	Gage height, ft (00065)
10-01-2010	**1500**	Regular	745	311	8.6	92	7.5	256	17.8	4.02
10-13-2010	**0855**	Regular	747	11	8.3	85	7.8	325	15.6	2.66
11-09-2010	**0950**	Regular	751	24	11.1	91	7.8	339	6.3	2.89
12-01-2010	**1400**	Regular	746	1,350	11.0	93	7.4	170	7.5	6.64
12-14-2010	**1550**	Regular	746	29	14.0	98	7.5	300	.1	2.96
01-11-2011	**1050**	Regular	756	16	13.9	96	7.6	346	-.1	2.79
02-15-2011	**1730**	Regular	749	265	13.4	104	8.1	187	4.0	3.96
03-01-2011	**1730**	Regular	745	--	12.0	100	7.6	165	6.8	4.56
03-08-2011	**1355**	Regular	750	532	12.7	102	7.7	162	5.5	--
03-15-2011	**1730**	Regular	744	565	11.7	98	7.5	158	6.6	--
04-05-2011	**0905**	Regular	726	247	9.5	92	7.7	192	11.8	3.92
05-10-2011	**0925**	Regular	746	234	9.4	94	7.7	203	14.6	3.93
05-19-2011	**1155**	Regular	745	2,520	9.5	94	7.2	133	14.1	--
06-14-2011	**0930**	Regular	747	23	7.6	86	7.9	293	20.9	3.01
07-11-2011	**1510**	Regular	744	49	8.4	108	8.1	291	26.8	3.21
08-08-2011	**1515**	Regular	739	16	7.8	101	7.6	300	27.3	2.83
09-07-2011	**1455**	Regular	743	1,280	8.4	91	7.0	186	18.3	6.53
09-12-2011	**1425**	Regular	746	355	9.1	102	7.8	248	20.4	4.28

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 2 of 3

[%, percent; N, nitrogen; P, phosphorus; ft, feet; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than]

Date	Sample start time	Suspended solids, water, unfiltered, mg/L (00530)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrate, water, filtered, mg/L as N (00618)	Nitrite, water, filtered, mg/L as N (00613)	Orthophos-phate, water, filtered, mg/L as P (00671)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, analytically determined, mg/L (62855)
10-01-2010	**1500**	15	< .010	1.74	1.72	0.017	0.008	0.063	2.24
10-13-2010	**0855**	< 15	< .010	.12	.116	.002	.005	.013	.35
11-09-2010	**0950**	< 15	< .010	.18	.174	.002	.005	.006	.33
12-01-2010	**1400**	181	< .010	2.22	2.21	.008	.009	.267	3.47
12-14-2010	**1550**	< 15	< .010	1.51	1.51	< .005	.007	.011	1.64
01-11-2011	**1050**	< 15	< .010	.75	.750	.002	.005	.008	.87
02-15-2011	**1730**	< 15	.012	1.33	1.33	.004	.005	.023	1.60
03-01-2011	**1730**	< 15	< .010	1.43	1.43	.004	.009	.029	1.72
03-08-2011	**1355**	< 15	.017	1.21	1.21	.003	.007	.023	1.48
03-15-2011	**1730**	< 15	.010	1.33	1.33	.003	.005	.038	1.60
04-05-2011	**0905**	< 15	< .010	.52	.519	.002	.005	.012	.72
05-10-2011	**0925**	16	.012	.41	.403	.002	.006	.014	.60
05-19-2011	**1155**	88	.019	.54	.540	.004	.010	.122	1.09
06-14-2011	**0930**	< 15	.014	.25	.249	.002	.006	.016	.41
07-11-2011	**1510**	< 15	< .010	.17	.170	.002	.010	.021	.40
08-08-2011	**1515**	< 15	.011	.03	.026	< .001	.008	.018	.18
09-07-2011	**1455**	76	.025	1.14	1.13	.007	.017	.105	1.94
09-12-2011	**1425**	24	< .010	.84	.836	.007	.008	.044	1.31

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 3 of 3

[%, percent; N, nitrogen; P, phosphorus; ft, feet; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than]

Date	Sample start time	Suspended sediment concen-tration, mg/L (80154)	Suspended sediment discharge, tons per day (80155)
10-01-2010	**1500**	26	22
10-13-2010	**0855**	6	.18
11-09-2010	**0950**	1	.06
12-01-2010	**1400**	217	791
12-14-2010	**1550**	2	.16
01-11-2011	**1050**	< .5	< .02
02-15-2011	**1730**	11	7.9
03-01-2011	**1730**	12	--
03-08-2011	**1355**	11	16
03-15-2011	**1730**	31	47
04-05-2011	**0905**	3	2.0
05-10-2011	**0925**	4	2.5
05-19-2011	**1155**	103	701
06-14-2011	**0930**	3	.19
07-11-2011	**1510**	3	.40
08-08-2011	**1515**	2	.09
09-07-2011	**1455**	83	287
09-12-2011	**1425**	33	32