Water-Data Report 2011

01572190 SWATARA CREEK NEAR INWOOD, PA

Lower Susquehanna Basin
Lower Susquehanna-Swatara Subbasin

LOCATION.--Lat 40°28′45″, long 76°31′52″ referenced to North American Datum of 1927, Lebanon County, PA, Hydrologic Unit 02050305, on right bank 20 ft downstream from single-span steel-truss bridge on Appalachian Trail, 0.4 mi upstream from steel-truss bridge at Inwood, 0.5 mi downstream from Trout Run, and 2.0 mi north of Lickdale.

DRAINAGE AREA.--167 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1988 to January 1991, October 1991 to current year.

GAGE.--Water-stage recorder. Datum of gage is 426.13 ft above North American Vertical Datum of 1988. Satellite telemetry at station.

COOPERATION.--Station established and maintained by the U.S. Geological Survey in cooperation with the Pennsylvania Department of Environmental Protection. Records of water diversion are provided by Pennsylvania American Water Company.

REMARKS.--Record good except those for estimated daily discharges, which are fair. The Pennsylvania American Water Company diverts water upstream from station for municipal supply of city of Lebanon. Diversion for the year was equivalent to a mean daily discharge of 7.7 ft^3/s. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 1	0330	6,770	12.70
Dec 1	2015	3,390	9.07
Mar 7	0515	5,630	11.59
Mar 11	0630	10,100	15.59
Apr 17	0615	7,000	12.91
Apr 28	1615	5,160	11.10
Aug 28	1430	2,900	8.44
Sep 8	0830	*29,500	*23.79
Sep 28	0630	6,630	12.57

Minimum discharge, 36 ft^3/s, July 31, Aug. 1, minimum gage height, 1.98 ft, Aug 1.

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 01572190, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/01572190.2011.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	4,240	128	1,650	125	97	711	403	959	280	90	41	243
2	994	114	1,970	125	127	566	403	778	253	84	61	218
3	486	108	979	121	191	471	328	657	224	86	43	188
4	350	168	679	111	155	407	302	813	204	82	58	169
5	404	335	525	112	149	372	379	678	216	79	57	1,910
6	354	231	426	103	180	1,870	418	543	246	73	69	2,400
7	291	188	365	109	178	4,600	377	487	194	70	1,120	7,690
8	227	165	303	101	218	2,080	390	444	174	72	355	19,600
9	187	151	259	e99	204	1,330	582	399	161	77	201	5,890
10	158	139	232	e98	182	3,090	518	362	171	67	161	2,580
11	141	126	214	e99	148	8,280	485	330	694	63	115	1,530
12	181	116	550	e101	161	2,950	523	301	542	61	92	1,060
13	156	111	1,120	e98	146	1,740	866	280	352	57	83	801
14	137	107	693	e94	151	1,210	909	272	268	54	993	641
15	147	103	515	e91	245	936	727	324	227	52	537	568
16	125	113	424	e88	232	843	1,330	436	201	50	282	485
17	113	684	364	90	252	706	5,260	423	309	48	185	415
18	107	472	310	e94	540	601	2,140	438	226	47	140	366
19	110	347	275	e99	1,020	520	1,410	677	185	47	117	331
20	106	276	257	e105	626	449	1,120	1,370	166	45	110	330
21	98	233	233	e99	494	512	843	1,250	155	44	96	302
22	91	202	214	e92	395	508	684	901	149	42	107	390
23	85	186	196	e86	315	501	772	738	141	40	81	405
24	82	166	179	e80	282	789	716	691	184	39	71	551
25	81	162	169	e87	803	653	667	538	147	42	74	381
26	108	197	164	e83	878	563	588	463	128	53	94	329
27	306	170	e155	e79	639	494	658	613	119	46	84	626
28	285	145	e158	e82	698	441	2,900	479	111	42	1,820	4,090
29	202	133	156	e81	---	402	2,190	443	108	51	1,110	2,230
30	168	135	136	e82	---	367	1,310	368	97	44	502	1,400
31	146	---	133	e85	---	364	---	312	---	39	325	---
Total	10,666	5,911	14,003	2,999	9,706	39,326	30,198	17,767	6,632	1,786	9,184	58,119
Mean	344	197	452	96.7	347	1,269	1,007	573	221	57.6	296	1,937
Max	4,240	684	1,970	125	1,020	8,280	5,260	1,370	694	90	1,820	19,600
Min	81	103	133	79	97	364	302	272	97	39	41	169
Cfsm	2.06	1.18	2.70	0.58	2.08	7.60	6.03	3.43	1.32	0.34	1.77	11.6
In.	2.38	1.32	3.12	0.67	2.16	8.76	6.73	3.96	1.48	0.40	2.05	12.95

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	217	296	426	391	336	597	497	344	291	160	140	235
Max	538	684	1,098	987	832	1,269	1,325	1,184	1,007	576	512	1,937
(WY)	(1997)	(2007)	(1997)	(1996)	(1998)	(2011)	(1993)	(1989)	(2003)	(1989)	(2003)	(2011)
Min	35.1	40.8	35.8	94.6	96.4	133	165	123	58.3	26.2	31.5	31.0
(WY)	(2002)	(2002)	(1999)	(2002)	(2002)	(2009)	(1995)	(1999)	(1999)	(1999)	(1999)	(2005)

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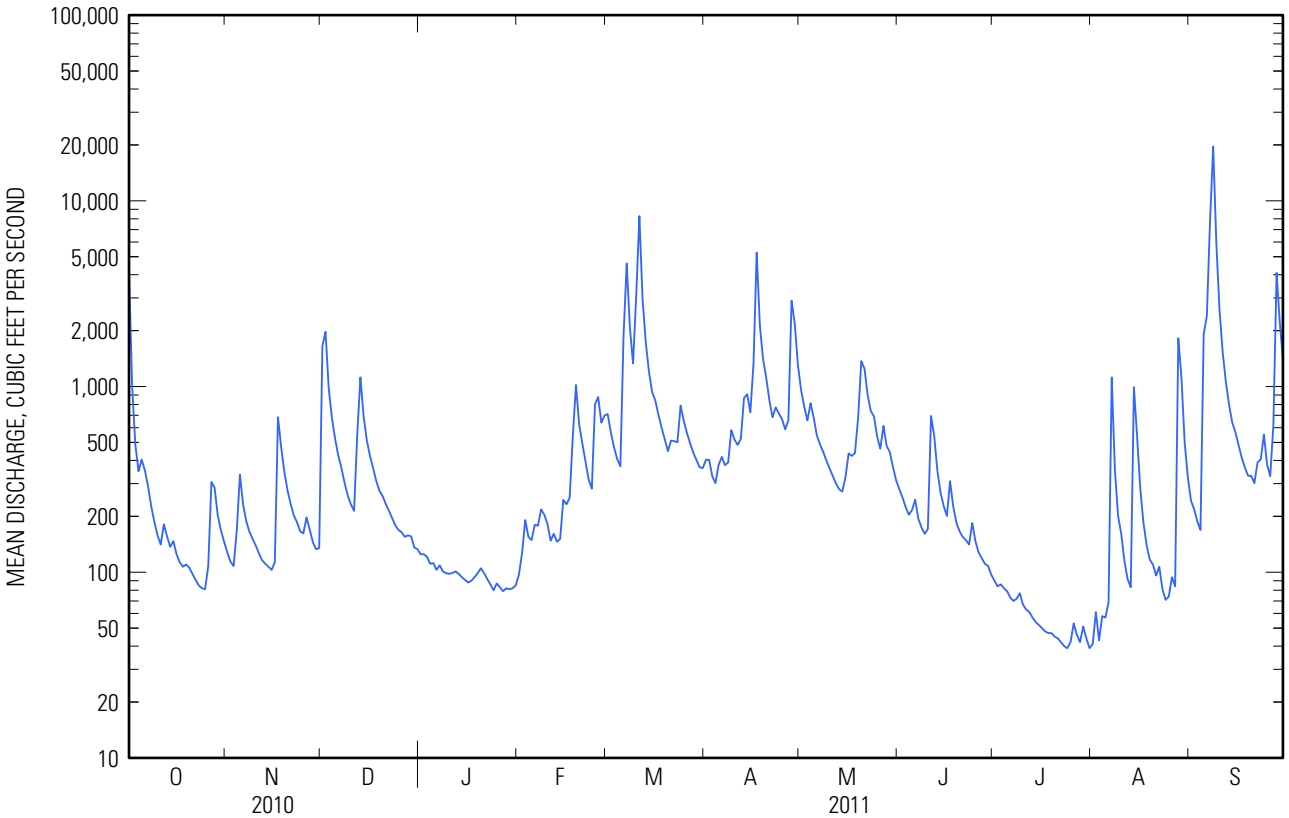
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		For Period of Daily Record	
Annual total	95,570		206,297			
Annual mean	262		565		325	
Highest annual mean					565	2011
Lowest annual mean					140	2002
Highest daily mean	4,240	Oct 1	19,600	Sep 8	19,600	Sep 8, 2011
Lowest daily mean	21	Sep 9[a]	39	Jul 24[b]	17	Aug 2, 1999[c]
Annual seven-day minimum	22	Sep 5	43	Jul 19	17	Aug 2, 1999
Maximum peak flow			[d]29,500	Sep 8	[d]29,500	Sep 8, 2011
Maximum peak stage			[e]23.79	Sep 8	[e]23.79	Sep 8, 2011
Instantaneous low flow			36	Jul 31[f]	17	Aug 2, 1999[g]
Annual runoff (cfsm)	1.57		3.38		1.95	
Annual runoff (inches)	21.29		45.95		26.43	
10 percent exceeds	554		1,080		691	
50 percent exceeds	170		233		179	
90 percent exceeds	35		80		44	

[a] Also Sep 10, 11.
[b] Also Jul 31.
[c] Also Aug 3-8, 12, 13, 1999.
[d] From rating curve extended above 14,500 ft³/s on basis of slope-area measurement of peak flow at gage height 23.79 ft.
[e] From inside floodmark.
[f] Also Aug 1.
[g] Also Aug 3-8, 12, 13, Sep 5, 1999.