

**SWATARA CREEK BASIN**

**01573000 SWATARA CREEK AT HARPER TAVERN, PA**

**LOCATION.**--Lat 40°24'09", long 76°34'39", Lebanon County, Hydrologic Unit 02050305, on left bank 100 ft downstream from bridge on State Highway 934 at Harper Tavern, 6.0 mi northwest of Annville, and 8.5 mi downstream from Little Swatara Creek.

**DRAINAGE AREA.**--337 mi<sup>2</sup>.

**PERIOD OF RECORD.**--January 1919 to current year. Prior to October 1927, published as "at *Harpers*".

**REVISED RECORDS.**--WSP 1202: 1948. WSP 1302: 1920(M), 1921, 1924-25(M), 1927-28(M), 1930(M). WSP 1903: Drainage area. WDR PA-72-1: 1889 (M). WDR PA-85-2: 1984(P)(m).

**GAGE.**--Water-stage recorder. Datum of gage is 356.68 ft above sea level. Prior to July 16, 1931, nonrecording gage at same site and datum.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. 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 10.8 ft<sup>3</sup>/s. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Flood of June 1, 1889, reached a stage of 25.6 ft, from floodmark, discharge, about 88,000 ft<sup>3</sup>/s.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than a base discharge of 4,800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)	Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)
Jan. 19	0445	Ice jam	*10.36	Sept. 17	0315	6,160	8.16
Jan. 24	1815	*7,630	9.34				

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	72	83	e45	541	706	461	314	112	63	27	28
2	88	69	79	e44	1250	486	492	294	110	60	22	27
3	60	68	74	e160	1520	403	431	279	144	61	21	26
4	58	68	72	e350	1080	1050	397	279	129	56	21	26
5	72	67	71	e200	958	971	408	272	108	51	20	35
6	74	67	68	e180	775	803	357	259	97	45	19	102
7	67	66	64	e160	697	842	334	252	93	39	20	519
8	221	63	67	e180	705	603	310	300	90	36	22	303
9	506	61	75	e330	688	559	386	332	80	32	24	141
10	1110	64	74	e1000	603	537	1120	262	79	37	26	99
11	471	82	72	e650	532	513	760	228	81	43	27	81
12	267	95	67	e500	508	457	900	207	80	40	24	63
13	198	88	63	e400	599	410	736	199	77	39	23	53
14	218	76	64	e420	499	388	635	187	86	37	205	51
15	244	70	59	e400	435	480	577	177	160	37	225	54
16	172	66	58	e380	419	591	578	169	126	34	110	1550
17	145	64	59	e450	446	678	580	162	113	33	71	4250
18	129	64	62	e700	568	696	491	157	249	28	55	1210
19	120	68	59	e2500	514	653	438	185	176	26	47	662
20	107	65	55	e1100	435	574	461	189	117	27	43	451
21	96	68	55	e700	394	666	488	158	100	29	45	424
22	91	68	58	e900	335	2490	455	143	94	29	48	610
23	87	63	63	e1700	287	1690	485	160	85	29	42	494
24	86	61	59	e4300	e270	1280	635	243	78	29	41	335
25	81	60	49	3920	e260	1050	482	347	70	28	40	265
26	77	142	e49	2010	e250	853	438	208	70	26	42	216
27	77	260	e48	1490	e240	727	412	173	65	25	52	186
28	81	136	e47	1200	420	672	381	152	62	25	51	210
29	82	101	e47	1020	---	614	360	137	65	24	43	263
30	81	89	e46	807	---	529	338	125	70	35	33	2830
31	76	---	e45	656	---	471	---	119	---	44	29	---
TOTAL	5335	2451	1911	28852	16228	23442	15326	6668	3066	1147	1518	15564
MEAN	172	81.7	61.6	931	580	756	511	215	102	37.0	49.0	519
MAX	1110	260	83	4300	1520	2490	1120	347	249	63	225	4250
MIN	58	60	45	44	240	388	310	119	62	24	19	26
CFSM	.51	.24	.18	2.76	1.72	2.24	1.52	.64	.30	.11	.15	1.54
IN.	.59	.27	.21	3.18	1.79	2.59	1.69	.74	.34	.13	.17	1.72

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1999, BY WATER YEAR (WY)**

MEAN	329	533	702	692	765	1070	882	682	440	306	242	264
MAX	2104	1752	2168	2538	2097	3096	2466	2189	3952	1472	1772	2000
(WY)	1977	1927	1997	1996	1925	1994	1983	1989	1972	1945	1933	1975
MIN	28.1	35.9	60.0	42.1	162	358	297	154	80.2	30.8	22.0	15.9
(WY)	1942	1932	1931	1981	1980	1985	1988	1926	1965	1966	1966	1932

e Estimated.

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SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR			FOR 1999 WATER YEAR			WATER YEARS 1919 - 1999	
ANNUAL TOTAL	246787			121508			574	
ANNUAL MEAN	676			333			948	
HIGHEST ANNUAL MEAN							1972	
LOWEST ANNUAL MEAN							1931	
HIGHEST DAILY MEAN	5060	Jan	9	e4300	Jan	24	42500	Jun 23 1972
LOWEST DAILY MEAN	e45	Dec	31	19	Aug	6	6.6	Aug 21 1965
ANNUAL SEVEN-DAY MINIMUM	a47	Dec	25	21	Aug	2	10	Sep 19 1932
INSTANTANEOUS PEAK FLOW				b7630	Jan	24	c66700	Jun 23 1972
INSTANTANEOUS PEAK STAGE				d10.36	Jan	19	f23.72	Jun 23 1972
INSTANTANEOUS LOW FLOW				18	Aug	5-7	6.0	Aug 21 1965
ANNUAL RUNOFF (CFSM)	2.01			.99			1.70	
ANNUAL RUNOFF (INCHES)	27.24			13.41			23.13	
10 PERCENT EXCEEDS	1700			714			1290	
50 PERCENT EXCEEDS	317			137			319	
90 PERCENT EXCEEDS	64			36			65	

- a Computed using estimated daily discharges.
- b Gage height 9.34 ft.
- c From rating curve extended above 25,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.
- d Ice jam.
- e Estimated.
- f From floodmark in gage.

