



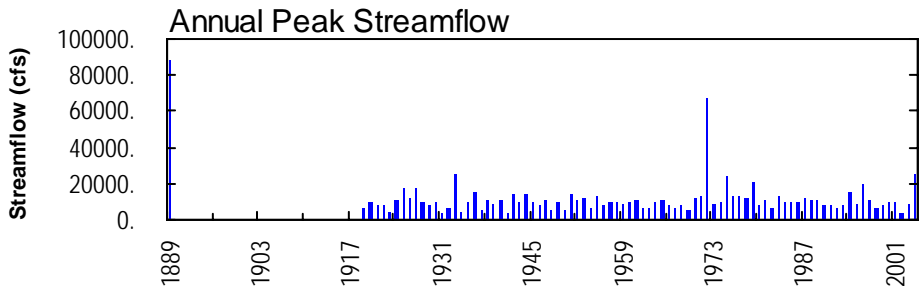
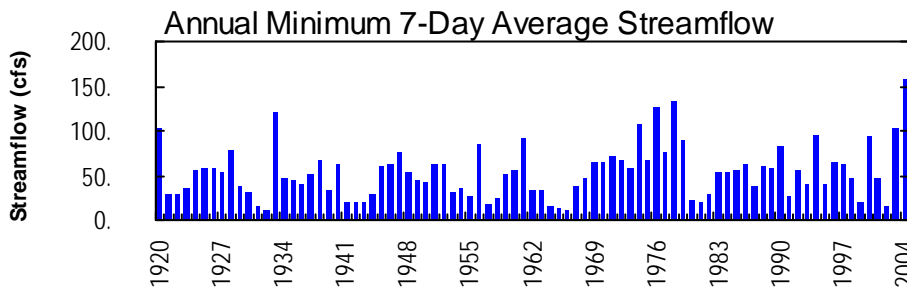
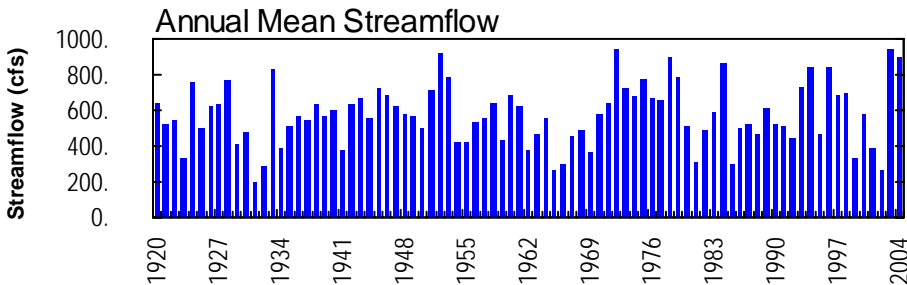
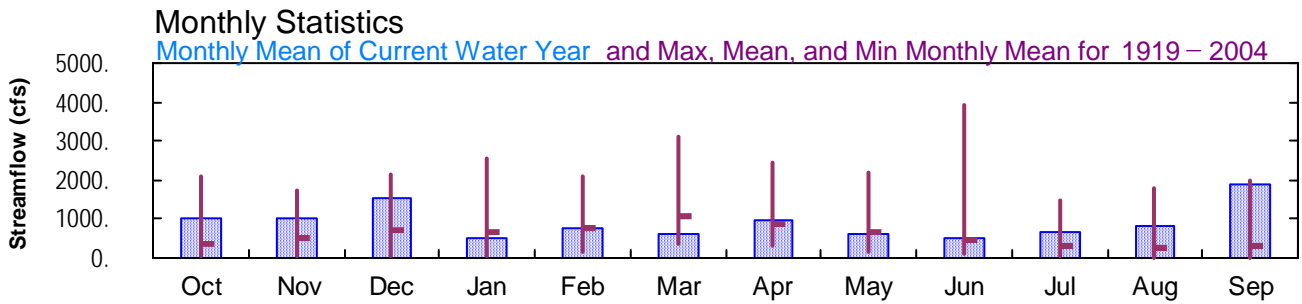
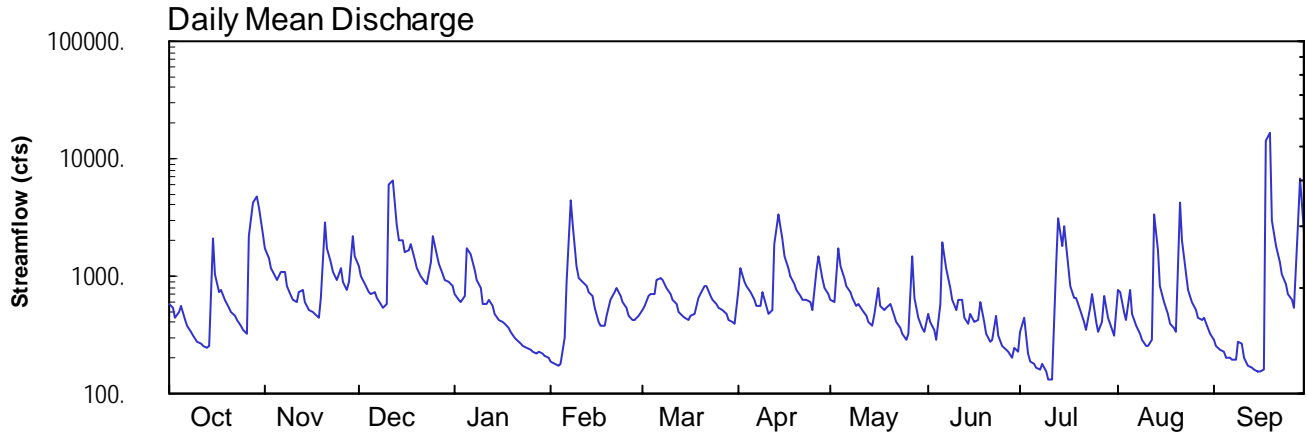
2004 Water Year SWATARA CREEK BASIN

01573000 Swatara Creek at Harper Tavern, PA

Latitude: 40° 24 ' 09"
Lebanon County

Longitude: 076° 34 ' 39"
Datum: 356.68 feet

Hydrologic Unit Code: 02050305
Drainage Area: 337. mi²



01573000-Swatara Creek at Harper Tavern

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 mi².

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 National Geodetic Vertical Datum of 1929. Prior to July 16, 1931, nonrecording gage at same site and datum.

REMARKS.--Records fair 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 11.3 ft³/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 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,800 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Oct. 29	1945	6,180	8.18	Aug. 21	1730	5,890	7.94
Dec. 12	0145	9,770	10.82	Sept. 19	0230	*25,000	*17.36
July 13	0145	5,210	7.36	Sept. 29	0600	8,690	10.09
Aug. 13	1945	4,990	7.17				

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	576	1750	1230	700	e190	e520	774	633	479	335	773	286
2	529	1430	1020	636	e180	e550	1160	606	410	443	721	254
3	448	1180	845	612	e170	e690	896	1760	349	214	493	232
4	499	1010	741	676	e180	e700	814	1200	286	183	416	223
5	554	921	704	1710	e300	e710	741	954	573	178	755	205
6	426	1100	732	1560	e900	e930	617	835	1920	168	469	199
7	371	1080	648	1140	e4400	972	567	734	1170	158	370	193
8	339	821	571	e920	e2750	926	554	647	804	180	323	193
9	307	684	544	e800	e1200	802	718	567	622	156	285	274
10	281	628	573	e580	e950	691	562	587	513	134	259	270
11	269	607	6030	e570	e900	616	483	514	620	129	257	200
12	255	744	6610	e620	e820	573	517	451	635	1260	286	175
13	242	768	2740	e560	e730	504	1870	412	439	3110	3330	165
14	258	602	2020	e480	e670	456	3360	377	385	1820	1680	158
15	2130	524	2020	e420	e530	435	2070	468	475	2640	821	151
16	1040	494	1580	e400	e410	429	1480	798	411	1240	593	156
17	742	471	1630	e390	e370	465	1190	555	427	832	472	160
18	764	442	1850	e360	e380	484	1010	514	606	659	399	14400
19	631	651	1380	e340	e450	650	866	540	400	645	361	16500
20	543	2860	1180	e300	e630	699	754	574	322	506	338	2960
21	492	1740	995	e290	e720	826	680	450	277	403	4220	1800
22	457	1320	881	e270	e800	818	625	412	284	348	2050	1340
23	423	1070	856	e260	e680	687	629	364	453	538	1050	1040
24	380	936	1330	e250	e610	619	597	322	311	693	761	849
25	346	1160	2150	e240	e540	572	509	292	255	400	601	714
26	328	898	1520	e230	e460	542	1130	318	237	339	505	618
27	2150	759	1240	e220	e430	511	1490	1470	228	400	435	533
28	4310	879	1050	e230	e420	478	954	644	201	666	425	2520
29	4720	2190	923	e220	e460	429	797	438	244	442	433	6770
30	3800	1490	899	e210	---	401	705	358	224	352	361	2450
31	2310	---	815	e200	---	391	---	338	---	311	320	---
TOTAL	30920	31209	47307	16394	22230	19076	29119	19132	14560	19882	24562	55988
MEAN	997	1040	1526	529	767	615	971	617	485	641	792	1866
MAX	4720	2860	6610	1710	4400	972	3360	1760	1920	3110	4220	16500
MIN	242	442	544	200	170	391	483	292	201	129	257	151
CFSM	2.96	3.09	4.53	1.57	2.27	1.83	2.88	1.83	1.44	1.90	2.35	5.54
IN.	3.41	3.45	5.22	1.81	2.45	2.11	3.21	2.11	1.61	2.19	2.71	6.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 2004, BY WATER YEAR (WY)

MEAN	337	528	709	678	752	1070	881	675	460	307	253	284
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.

SWATARA CREEK BASIN

01573000 SWATARA CREEK AT HARPER TAVERN, PA--Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1919 - 2004	
ANNUAL TOTAL	379954		330379			
ANNUAL MEAN	1041		903		576	
HIGHEST ANNUAL MEAN					948	1972
LOWEST ANNUAL MEAN					201	1931
HIGHEST DAILY MEAN	7780	Mar 21	16500	Sep 19	42500	Jun 23 1972
LOWEST DAILY MEAN	143	Jul 21	129	Jul 11	6.6	Aug 21 1965
ANNUAL SEVEN-DAY MINIMUM	171	Jul 15	158	Jul 5	10	Sep 19 1932
MAXIMUM PEAK FLOW			25000	Sep 19	a 66700	Jun 23 1972
MAXIMUM PEAK STAGE			17.36	Sep 19	b 23.72	Jun 23 1972
INSTANTANEOUS LOW FLOW			126	Jul 11,12	6.0	Aug 21 1965
ANNUAL RUNOFF (CFSM)	3.09		2.68		1.71	
ANNUAL RUNOFF (INCHES)	41.94		36.47		23.23	
10 PERCENT EXCEEDS	2210		1740		1290	
50 PERCENT EXCEEDS	693		574		319	
90 PERCENT EXCEEDS	234		239		66	

- a** From rating curve extended above 25,000 ft³/s on basis of slope-area measurement of peak flow.
- b** From floodmark in gage.