

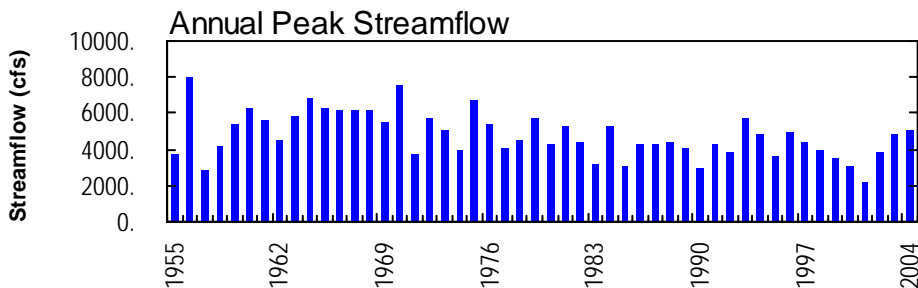
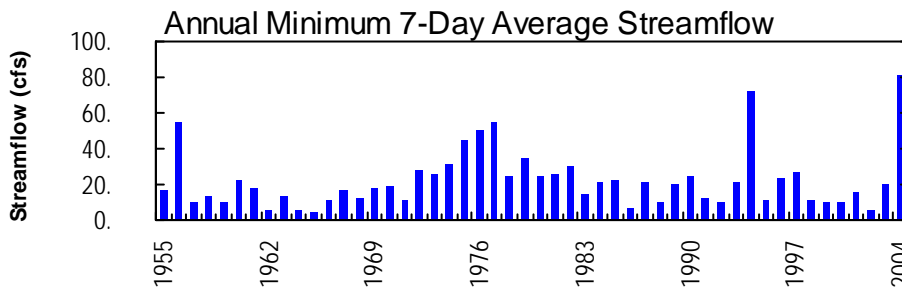
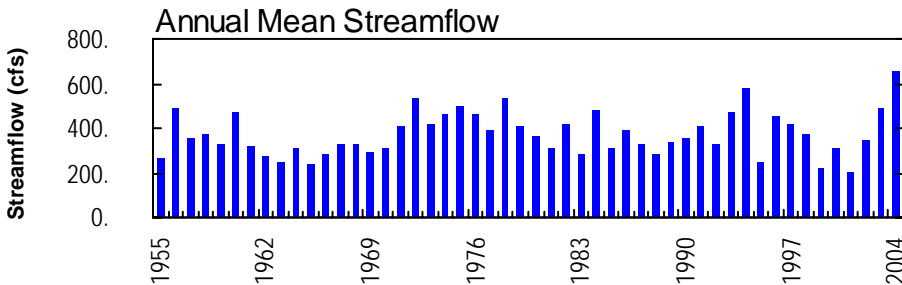
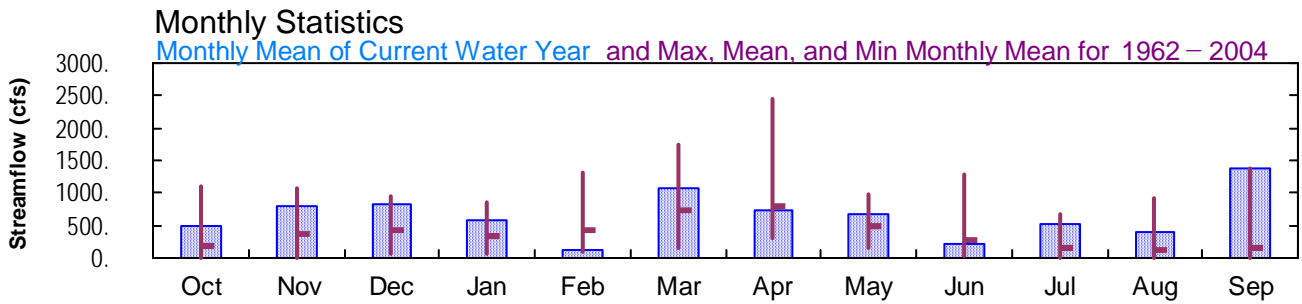
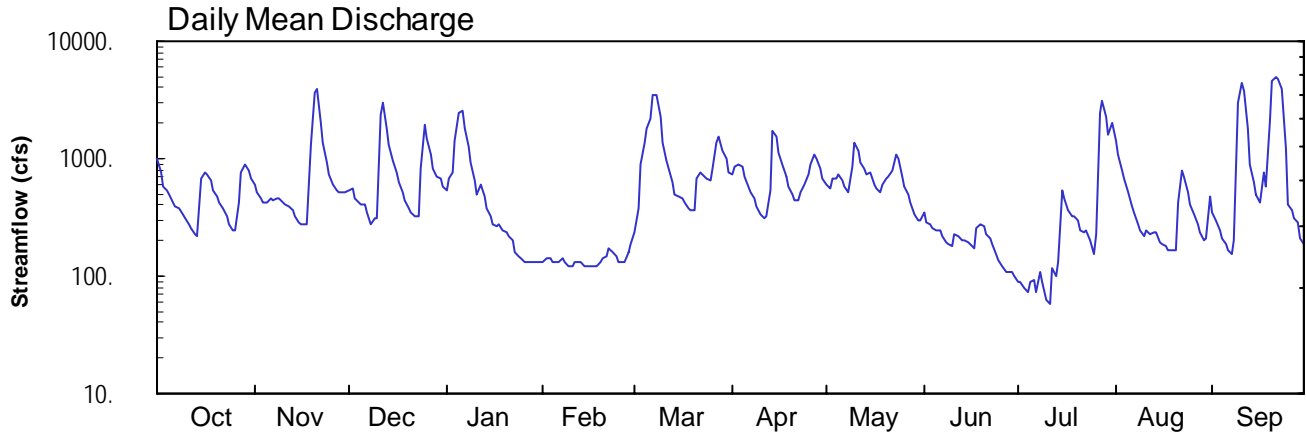


2004 Water Year
WEST BRANCH SUSQUEHANNA RIVER BASIN
01545000 Kettle Creek near Westport, PA

Latitude: 41° 19' 10"
Clinton County

Longitude: 077° 52' 27"
Datum: 728.24 feet

Hydrologic Unit Code: 02050203
Drainage Area: 233. mi²



WEST BRANCH SUSQUEHANNA RIVER BASIN

**01545000 KETTLE CREEK NEAR WESTPORT, PA
(Pennsylvania Water-Quality Network Station)**

LOCATION.--Lat 41°19'10", long 77°52'27", Clinton County, Hydrologic Unit 02050203, on left bank on SR 4001, 0.4 mi upstream from Short Bond Run, 3.5 mi upstream from mouth and Westport, and 5.0 mi downstream from Alvin R. Bush Dam (Kettle Creek Lake).

DRAINAGE AREA.--233 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is 728.24 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 14, 1956, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since February 1962 by Alvin R. Bush Dam (station 01544800). Several measurements of water temperature were made during the year. Satellite telemetry at station.

**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	1000	600	537	532	e130	e240	743	596	353	90	1440	353
2	748	523	554	690	e140	380	845	554	286	88	1100	299
3	573	461	465	761	e140	896	890	670	272	79	794	249
4	528	418	430	1400	e130	1360	859	670	255	73	664	213
5	505	419	411	2460	e130	1830	704	735	243	87	513	190
6	422	455	409	2580	e130	2140	585	638	243	92	399	169
7	397	441	349	1810	e140	3500	521	580	221	73	344	152
8	376	462	279	1270	e130	3530	460	506	194	110	277	205
9	338	453	311	938	e120	2230	398	848	189	88	244	3010
10	309	419	307	639	e120	1370	339	1380	182	62	221	4390
11	276	407	2400	497	e130	972	310	1180	224	57	250	3730
12	252	400	3010	591	e130	820	320	920	220	117	231	1790
13	229	359	1820	476	e130	625	526	827	203	101	233	877
14	217	322	1310	e380	e120	489	1720	726	203	133	233	622
15	671	288	978	e320	e120	470	1530	761	198	543	197	494
16	772	280	759	e280	e120	464	1130	604	184	456	187	422
17	729	278	628	e270	e120	418	883	549	174	367	181	759
18	645	276	518	e280	e120	379	715	523	255	321	167	573
19	540	1340	433	e250	e130	358	572	598	272	321	164	2090
20	468	3660	371	e240	e140	361	488	674	265	293	166	4610
21	421	4000	353	e220	e150	670	440	696	225	245	417	4900
22	379	2020	322	e200	e170	756	444	799	209	234	802	4710
23	322	1370	325	e160	e160	715	520	1070	186	249	694	3880
24	279	917	828	e150	e150	665	601	990	153	203	512	1240
25	245	736	1930	e140	e130	645	727	707	139	155	406	404
26	245	593	1480	e130	e130	810	881	569	119	225	336	359
27	421	545	1080	e130	e130	1380	1090	501	109	2420	275	311
28	761	522	819	e130	e160	1520	995	419	108	3070	238	285
29	904	516	693	e130	e190	1180	814	331	107	2310	204	211
30	782	506	679	e130	---	985	679	297	100	1600	207	190
31	688	---	585	e130	---	759	---	303	---	2020	473	---
TOTAL	15442	23986	25373	18314	3940	32917	21729	21221	6091	16282	12569	41687
MEAN	498	800	818	591	136	1062	724	685	203	525	405	1390
MAX	1000	4000	3010	2580	190	3530	1720	1380	353	3070	1440	4900
MIN	217	276	279	130	120	240	310	297	100	57	164	152

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2004, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	191	356	423	351	439	743	799	482	282	159	119	160
MAX	1096	1060	954	857	1330	1739	2453	992	1278	677	927	1390
(WY)	1991	1971	1973	1979	1981	1979	1993	2002	1972	1972	1994	2004
MIN	13.5	5.37	55.4	63.8	78.8	167	309	141	39.8	8.06	7.69	13.0
(WY)	1965	1965	1999	1981	1963	1968	1976	1999	1999	1962	1962	1991

SUMMARY STATISTICS FOR 2003 CALENDAR YEAR FOR 2004 WATER YEAR WATER YEARS 1962 - 2004

ANNUAL TOTAL	223446	239551										
ANNUAL MEAN	612	655							374			
HIGHEST ANNUAL MEAN									655			2004
LOWEST ANNUAL MEAN									203			2001
HIGHEST DAILY MEAN	4290			Mar 23		4900		Sep 21	7200		Apr 14	1970
LOWEST DAILY MEAN	53			Jul 15		57		Jul 11	4.4		Nov 3	1964 ^a
ANNUAL SEVEN-DAY MINIMUM	75			Jul 13		81		Jul 5	4.6		Nov 2	1964
MAXIMUM PEAK FLOW						5090		Sep 21	7540		Apr 13	1970
MAXIMUM PEAK STAGE						8.52		Sep 21	10.17		Apr 13	1970
INSTANTANEOUS LOW FLOW									3.0		Dec 6	1964
10 PERCENT EXCEEDS			1370			1380			880			
50 PERCENT EXCEEDS			400			419			185			
90 PERCENT EXCEEDS			130			130			30			

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1961, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	192	247	373	297	387	837	1066	541	204	131	120	72.8
MAX	709	647	708	564	713	1373	1496	1103	631	318	276	177
(WY)	1956	1960	1957	1959	1961	1955	1958	1960	1960	1958	1956	1958
MIN	23.7	41.3	27.0	27.6	127	394	411	151	63.9	25.1	16.9	24.3
(WY)	1958	1961	1961	1961	1958	1960	1955	1955	1955	1955	1957	1957

SUMMARY STATISTICS WATER YEARS 1955 - 1961

ANNUAL MEAN	372											
HIGHEST ANNUAL MEAN	492											1956
LOWEST ANNUAL MEAN	266											1955
HIGHEST DAILY MEAN	5970			Mar 8								1956
LOWEST DAILY MEAN	8.9			Sep 10								1957
ANNUAL SEVEN-DAY MINIMUM	10			Sep 24								1959
MAXIMUM PEAK FLOW	^b 7970			Mar 8								1956
MAXIMUM PEAK STAGE	^c 13.31			Jan 22								1959
INSTANTANEOUS LOW FLOW	8.9			Sep 9,10								1957
ANNUAL RUNOFF (CFPM)	1.60											
ANNUAL RUNOFF (INCHES)	21.69											
10 PERCENT EXCEEDS	942											
50 PERCENT EXCEEDS	160											
90 PERCENT EXCEEDS	26											

^a Also Nov. 6, 12, 1964, Sept. 14, 2002.

^b Gage height 10.48 ft.

^c Backwater from ice.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unfltrd lab, µS/cm 25 degC (90095)	Specif. conductance, wat unfltrd lab, µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, unfltrd, mg/L (00915)	Calcium water, unfltrd recoverable, mg/L (00916)
OCT 2003 16...	1300	1028	9813	786	11.3	7.5	6.8	53	49	11.1	18	4.9	5.1
DEC 23...	0830	1028	9813	313	13.1	6.5	6.9	54	62	2.1	20	5.2	5.5
APR 2004 07...	1330	1028	9813	515	12.9	7.3	7.2	46	45	7.7	17	4.4	4.6
JUL 01...	1100	1028	9813	90	9.8	6.7	6.9	60	60	20.8	22	6.1	6.3
AUG 17...	1345	1028	9813	188	10.1	7.8	6.6	55	55	21.3	20	5.7	5.7

Date	Magnesium, water, unfltrd recoverable, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO3 (00417)	Acidity water, unfltrd heated, mg/L as CaCO3 (70508)	Sulfate, unfltrd, mg/L (00945)	Residue on evap. at 105degC, wat fltrd, mg/L (00515)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd, mg/L as N (00610)	Nitrate water, unfltrd, mg/L as N (00620)	Nitrite water, unfltrd, mg/L as N (00615)	Orthophosphate, water, unfltrd, mg/L as P (70507)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, water, unfltrd, mg/L (00600)
OCT 2003 16...	1.3	1.4	14	.00	8.1	48	4	<.020	.18	<.040	.02	.016	.44
DEC 23...	1.5	1.6	9	.00	12.1	<2	<2	<.020	.39	<.040	<.01	<.010	.54
APR 2004 07...	1.2	1.2	8	17	9.3	24	4	<.020	.36	<.040	<.01	.014	.43
JUL 01...	1.6	1.6	13	12	9.8	50	<2	<.020	.23	<.040	<.01	.011	.27
AUG 17...	1.5	1.5	17	10	7.8	46	<2	<.020	.20	<.040	<.01	<.010	.29

Date	BOD, water, unfltrd 5 day, 20 degC, mg/L (00310)	Aluminum, water, unfltrd recoverable, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Copper, water, unfltrd, µg/L (01040)	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, unfltrd, µg/L (01046)	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, unfltrd, µg/L (01049)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, unfltrd, µg/L (01056)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, unfltrd, µg/L (01065)	Nickel, water, unfltrd recoverable, µg/L (01067)
OCT 2003 16...	1.1	30	100	<4	<4	50	180	<1.0	<1.0	20	30	<4.0	<4.0
DEC 23...	1.6	30	100	<4	<4	40	130	<1.0	<1.0	60	70	<4.0	<4.0
APR 2004 07...	.3	30	80	<4	<4	<20	80	<1.0	<1.0	20	20	<4.0	<4.0
JUL 01...	<.2	40	70	<4	<4	80	130	<1.0	<1.0	20	30	<4.0	<4.0
AUG 17...	.8	50	70	<4	<4	40	120	<1.0	<1.0	10	30	<4.0	<4.0

Date	Zinc, water, unfltrd, µg/L (01090)	Zinc, water, unfltrd recoverable, µg/L (01092)
OCT 2003 16...	<5.0	<5.0
DEC 23...	<5.0	5.7
APR 2004 07...	<5.0	<5.0
JUL 01...	<5.0	<5.0
AUG 17...	<5.0	<5.0

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	08/16/03
Benthic Macroinvertebrate	Count
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<i>Prostoma</i>	7
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
<i>Ferrissia</i>	2
Physidae	
<i>Physa</i>	1
Planorbidae	
<i>Planorbella</i>	1
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
<i>Pisidium</i>	1
<i>Sphaerium</i>	9
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	2
Tubificida	
Naididae	7
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	3
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<i>Baetis</i>	3
<i>Plauditus</i>	1
<i>Procloeon</i>	2
Caenidae	
<i>Caenis</i>	1
Ephemerellidae	1
<i>Eurylophella</i>	32
<i>Serratella</i>	1
Heptageniidae	
<i>Stenonema</i>	22
Isonychiidae	
<i>Isonychia</i>	1
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
<i>Argia</i>	1
Corduliidae	
<i>Tetragoneuria</i>	1
Plecoptera (STONEFLIES)	
Taeniopterygidae	
<i>Taeniopteryx</i>	7

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	08/16/03
Benthic Macroinvertebrate	Count
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<i>Nigronia</i>	1
Sialidae (ALDERFLIES)	
<i>Sialis</i>	1
Trichoptera (CADDISFLIES)	
Apataniidae	
<i>Apatania</i>	2
Brachycentridae	
<i>Brachycentrus</i>	2
<i>Micrasema</i>	4
Hydropsychidae	
<i>Cheumatopsyche</i>	1
<i>Hydropsyche</i>	2
Hydroptilidae	
<i>Hydroptila</i>	5
Lepidostomatidae	
<i>Lepidostoma</i>	2
Leptoceridae	
<i>Mystacides</i>	1
<i>Oecetis</i>	4
Polycentropodidae	
<i>Neureclipsis</i>	4
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	22
Empididae (DANCE FLIES)	
<i>Hemerodromia</i>	4
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	2
Total Organisms	163
Total Taxa	36