

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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	102	212	393	e130	397	592	171	1500	169	2290	100
2	26	109	194	1380	e130	337	663	191	1940	148	2800	377
3	40	95	e150	1060	e130	e270	944	186	1420	138	1610	317
4	46	83	e120	804	e150	e240	1020	157	1090	124	1520	591
5	36	83	e140	628	e180	275	1750	177	836	119	1240	689
6	24	110	163	554	e150	251	2140	201	725	107	1020	582
7	18	158	e140	465	e180	e200	1670	189	722	101	823	472
8	17	170	120	417	e180	e170	1220	253	671	108	633	391
9	19	173	e130	405	e170	e310	927	261	667	102	599	321
10	19	179	e110	383	e180	e270	752	276	629	98	1970	263
11	21	168	e130	357	e160	e280	662	294	608	142	1630	229
12	23	147	e170	324	e150	312	639	342	606	123	1170	196
13	21	148	e180	288	e140	e360	622	324	600	93	867	178
14	18	134	197	274	e130	e350	581	290	611	71	625	194
15	22	131	266	270	e140	379	538	292	594	53	490	277
16	44	155	299	e240	e130	708	482	350	515	61	424	408
17	50	333	e260	e210	e110	1740	461	361	427	64	362	314
18	39	618	e180	e180	e120	3080	372	393	394	70	285	206
19	53	581	e220	e150	e130	3460	331	451	358	113	239	237
20	59	503	429	e220	e140	3010	327	439	301	93	199	319
21	60	425	860	e190	e130	1330	316	457	453	136	184	368
22	58	390	921	e150	e160	1400	304	374	657	650	160	398
23	66	364	742	e140	e300	4290	280	327	725	778	144	1160
24	61	335	572	e160	e450	4150	245	401	601	1400	129	1300
25	53	339	529	e150	e500	3010	231	496	492	1260	115	1020
26	90	329	433	e160	e450	1660	226	1090	395	839	113	777
27	162	290	345	e150	e470	1290	213	1170	330	678	119	661
28	215	265	314	e120	461	1050	191	1060	265	2210	109	2040
29	118	247	292	e130	---	909	179	934	231	1430	97	2240
30	58	224	254	e130	---	724	179	799	201	916	102	1450
31	77	---	232	e130	---	638	---	722	---	647	99	---
TOTAL	1667	7388	9304	10612	5851	36850	19057	13428	19564	13041	22167	18075
MEAN	53.8	246	300	342	209	1189	635	433	652	421	715	602
MAX	215	618	921	1380	500	4290	2140	1170	1940	2210	2800	2240
MIN	17	83	110	120	110	170	179	157	201	53	97	100

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2003, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	183	346	414	345	446	735	801	477	284	150	112	131
MAX	1096	1060	954	857	1330	1739	2453	992	1278	677	927	1058
(WY)	1991	1971	1973	1979	1981	1979	1993	2002	1972	1972	1994	1975
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 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1962 - 2003

ANNUAL TOTAL	115945.7		177004		368	
ANNUAL MEAN	318		485		203	
HIGHEST ANNUAL MEAN					575	
LOWEST ANNUAL MEAN					2001	
HIGHEST DAILY MEAN	3660	May 14	4290	Mar 23	7200	Apr 14 1970
LOWEST DAILY MEAN	4.4	Sep 14	17	Oct 8	4.4	Nov 3 1964 ^a
ANNUAL SEVEN-DAY MINIMUM	5.4	Sep 8	20	Oct 7	4.6	Nov 2 1964
MAXIMUM PEAK FLOW			4810	Mar 24	7540	Apr 13 1970
MAXIMUM PEAK STAGE			8.25	Mar 24	10.17	Apr 13 1970
INSTANTANEOUS LOW FLOW					3.0	Dec 6 1964
10 PERCENT EXCEEDS	768		1160		873	
50 PERCENT EXCEEDS	194		285		180	
90 PERCENT EXCEEDS	13		93		29	

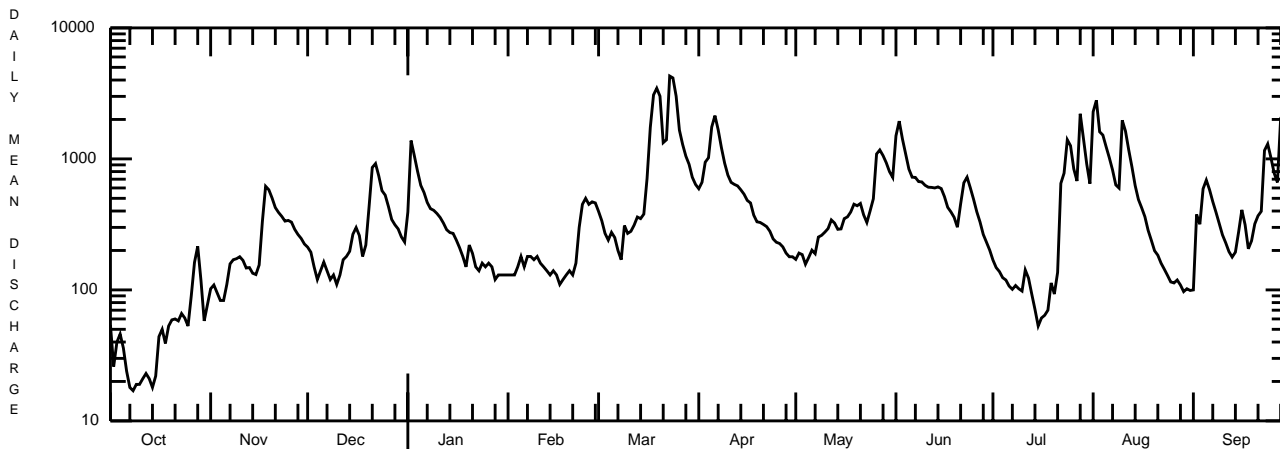
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1961, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	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
LOWEST ANNUAL MEAN	266
HIGHEST DAILY MEAN	5970
LOWEST DAILY MEAN	8.9
ANNUAL SEVEN-DAY MINIMUM	10
MAXIMUM PEAK FLOW	b7970
MAXIMUM PEAK STAGE	c13.31
INSTANTANEOUS LOW FLOW	8.9
ANNUAL RUNOFF (CFSM)	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.



OCTOBER 1, 2002 TO SEPTEMBER 30, 2003

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.

REMARKS.--Other data for the Water-Quality Network can be found on pages 368-434.

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 2002 TO SEPTEMBER 2003

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, μ S/cm 25 degC (00095)	Temperature, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water, unfltrd, recoverable, mg/L (00915)	Calcium water, unfltrd, recoverable, mg/L (00916)	Magnesium, water, unfltrd, mg/L (00925)
NOV 2002													
20...	1130	1028	9813	495	30	13.0	7.3	53	5.4	20	5.41	5.5	1.40
JAN 2003													
16...	1330	1028	9813	E240	30	15.2	6.9	61	.1	20	5.62	5.4	1.51
MAR													
24...	1245	1028	9813	4720	30	12.3	7.0	42	6.8	16	4.30	4.5	1.14
MAY													
15...	1230	1028	9813	284	30	10.7	7.5	55	12.5	20	5.62	5.7	1.53
JUL													
16...	1400	1028	9813	66	30	8.9	7.7	65	25.8	24	6.49	6.7	1.77
SEP													
18...	1330	1028	9813	206	30	10.1	7.3	57	17.9	20	5.63	5.7	1.51
Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unfixed end pt, lab, mg/L as CaCO3 (00417)	Acidity water, unfltrd heated, mg/L as CaCO3 (70508)	Sulfate water, unfltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, 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)	Ortho-phosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)
NOV 2002													
20...	1.5	11	.0	9.2	48	8	<.020	.38	<.040	<.01	<.010	.77	1.2
JAN 2003													
16...	1.5	8	.0	10.8	54	<2	<.020	.33	<.040	<.01	<.010	.31	.8
MAR													
24...	1.2	8	7.0	8.6	46	6	<.020	.57	<.040	.01	.016	.85	--
MAY													
15...	1.5	11	.0	10.1	28	<2	<.020	.13	<.040	.01	<.010	.34	1.2
JUL													
16...	1.8	16	.0	11.9	38	<2	<.020	.25	<.040	<.01	<.010	.38	.8
SEP													
18...	1.5	13	.0	8.8	40	8	<.020	.16	<.040	<.01	.010	.26	.8

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Alum- inum, water, fltrd, µg/L (01106)	Alum- inum, water, unfltrd recover -able, µg/L (01105)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover -able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mangan- ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)
NOV 2002 20...	27	100	<4	<4	20	180	<1.0	<1.0	20	30	<4.0	<4.0	<5.0
JAN 2003 16...	36	100	<4	<4	<20	160	<1.0	<1.0	40	50	<4.0	<4.0	<5.0
MAR 24...	26	200	<4	<4	<20	270	<1.0	<1.0	10	60	<4.0	<4.0	<5.0
MAY 15...	20	85	<4	<4	30	180	<1.0	<1.0	30	50	<4.0	<4.0	<5.0
JUL 16...	84	100	<4	<4	90	150	<1.0	<1.0	10	20	<4.0	<4.0	<5.0
SEP 18...	49	92	<4	<4	60	170	<1.0	<1.0	20	40	<4.0	<4.0	<5.0

Date	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV 2002 20...	<5.0
JAN 2003 16...	<5.0
MAR 24...	6.1
MAY 15...	<5.0
JUL 16...	<5.0
SEP 18...	<5.0

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using rapid bioassessment protocols for benthic macroinvertebrates using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 (approximate) subsamples.

Date	8/13/02
Benthic Macroinvertebrate	Count
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
<u>Ferrissia</u> sp	4
Physidae	
<u>Aplexa</u> sp	1
Planorbidae	
<u>Helisoma</u> sp	2
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	1
<u>Musiculum</u> sp	2
<u>Sphaerium</u> sp	4
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	6
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Plauditus</u> sp	1
Ephemerellidae	
<u>Serratella</u> sp	1
Heptageniidae	2
<u>Stenonema</u> sp	17
<u>Stenacron</u> sp	1
Isonychiidae	
<u>Isonychia</u> sp	3
Plecoptera (STONEFLIES)	
Perlidae	
<u>Acroneuria</u> sp	1
Trichoptera (CADDISFLIES)	1
Brachycentridae	
<u>Brachycentrus</u> sp	9
Hydropsychidae	
<u>Cheumatopsyche</u> sp	5
<u>Hydropsyche</u> sp	4
<u>Macrostemum</u> sp	4
Hydroptilidae	
<u>Hydroptila</u> sp	1
Lepidostomatidae	
<u>Lepidostoma</u> sp	1
Leptoceridae	
<u>Oecetis</u> sp	1
Philopotamidae	
<u>Chimarra</u> sp	2
Polycentropodidae	
<u>Neureclipsis</u> sp	40

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	8/13/02
Benthic Macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Stenelmis</u> sp	6
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	81
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	1
Total Organisms	203