

**CHRISTINA RIVER BASIN**

**01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA**

**LOCATION.**--Lat 39°59'08", long 75°49'40", Chester County, Hydrologic Unit 02040205, on right bank at city limits of Coatesville, 1,200 ft upstream from bridge on old Lincoln Highway, and 0.6 mi downstream from Rock Run.

**DRAINAGE AREA.**--45.8 mi<sup>2</sup>.

**WATER-DISCHARGE RECORDS**

**PERIOD OF RECORD.**--October 1943 to December 1951, January 1970 to current year.

**GAGE.**--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 306.05 ft above sea level. Sept. 10, 1943, to Dec. 31, 1951, nonrecording gage at site 1,100 ft downstream at different datum. Satellite telemetry at station.

**REMARKS.**--Records good except those for estimated daily discharges, which are fair. Diversion from Rock Run Reservoir (station 01480465) 2.6 mi upstream, capacity, 982 acre-ft, for municipal supply of city of Coatesville.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Flood of Aug. 9, 1942, reached a stage of 12.3 ft, site and datum then in use, discharge, 8,600 ft<sup>3</sup>/s, by slope-area measurement.

**COOPERATION.**--Records of diversion provided by city of Coatesville.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 700 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. 18	1730	771	5.45	Sept. 16	2100	*3,830	*8.00
Mar. 22	0930	734	5.40				

**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	12	15	19	15	26	129	43	33	20	13	6.9	10
2	12	15	19	11	101	57	e50	32	20	14	5.9	10
3	12	15	19	311	83	47	e43	32	21	15	5.6	10
4	19	15	18	74	46	86	e48	34	20	13	6.4	10
5	19	15	17	25	38	61	48	33	19	12	7.2	12
6	15	15	17	21	34	56	42	32	18	11	6.8	15
7	14	14	16	22	33	71	39	32	18	12	6.9	36
8	58	14	19	17	46	45	37	34	18	11	7.6	23
9	85	14	23	63	46	41	49	33	17	9.6	7.3	14
10	147	15	20	98	38	41	172	30	17	9.8	8.2	30
11	37	17	18	28	33	39	86	29	17	11	7.5	15
12	23	19	17	26	36	36	139	28	17	11	6.7	9.3
13	20	15	17	48	66	34	67	37	17	11	6.3	7.6
14	19	15	16	39	42	37	53	32	21	11	20	7.3
15	18	14	16	113	35	49	48	28	21	11	17	8.1
16	17	14	16	90	34	51	52	26	18	9.9	9.6	1500
17	16	15	17	100	35	80	58	25	17	8.6	8.3	650
18	15	15	16	367	142	100	47	25	20	8.1	7.9	57
19	16	14	16	222	83	53	44	27	19	7.5	7.7	37
20	16	15	15	54	50	45	43	27	16	9.1	9.9	29
21	15	16	15	45	42	64	43	24	17	8.6	11	41
22	15	14	17	54	35	460	49	23	18	9.3	11	75
23	15	14	17	52	32	111	52	32	17	9.9	10	44
24	15	14	15	233	33	71	54	47	15	8.7	9.2	30
25	15	14	14	105	32	59	43	41	15	7.9	8.3	25
26	15	42	13	54	32	50	40	29	15	7.6	38	21
27	15	35	14	43	31	47	37	26	14	7.2	25	20
28	15	22	14	40	64	47	36	24	14	6.9	11	22
29	15	19	17	35	---	46	35	23	14	6.5	11	22
30	15	18	18	31	---	42	34	21	14	6.3	10	112
31	15	---	16	28	---	40	---	20	---	6.4	10	---
TOTAL	755	508	521	2464	1348	2195	1631	919	524	303.9	324.2	2902.3
MEAN	24.4	16.9	16.8	79.5	48.1	70.8	54.4	29.6	17.5	9.80	10.5	96.7
MAX	147	42	23	367	142	460	172	47	21	15	38	1500
MIN	12	14	13	11	26	34	34	20	14	6.3	5.6	7.3
(†)	3.9	3.3	3.7	9.0	4.4	4.5	4.3	3.1	4.0	2.0	3.9	11.2

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

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
MEAN	37.9	56.4	69.8	80.3	86.4	96.7	88.0	73.0	59.6	49.7	32.2	37.7
MAX	149	114	227	262	179	275	197	159	236	176	82.9	136
(WY)	1997	1973	1997	1979	1971	1994	1983	1989	1972	1984	1971	1979
MIN	11.8	14.9	16.8	15.5	30.1	33.3	28.9	29.6	17.5	9.80	9.31	10.1
(WY)	1987	1982	1999	1981	1992	1985	1985	1999	1999	1999	1995	1986

† Diversion for municipal supply, equivalent in cubic feet per second (includes change in contents from Rock Run Reservoir).

e Estimated.

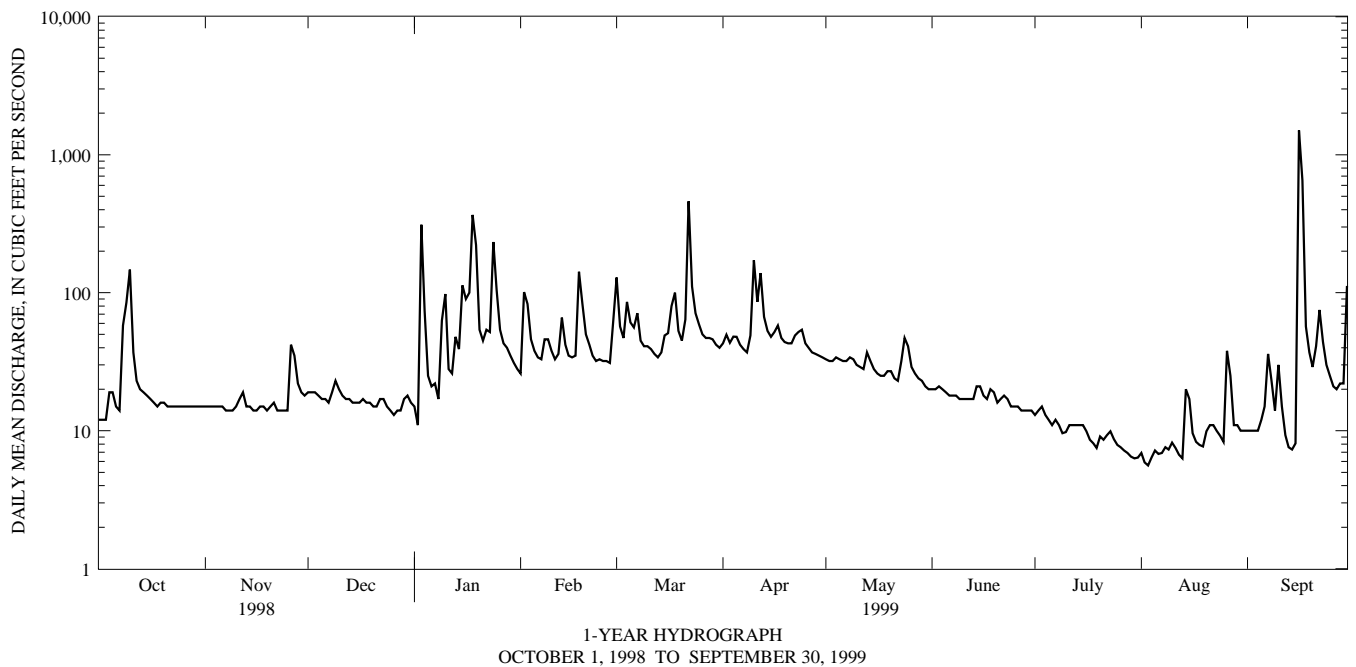
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01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	18914		14395.4			
ANNUAL MEAN	51.8		39.4		64.0	
HIGHEST ANNUAL MEAN					98.6	1979
LOWEST ANNUAL MEAN					28.1	1981
HIGHEST DAILY MEAN	503	Apr 2	1500	Sep 16	3400	Jun 22 1972
LOWEST DAILY MEAN	12	Sep 28-30 <sup>a</sup>	5.6	Aug 3	4.6	Sep 10 1944
ANNUAL SEVEN-DAY MINIMUM	12	Sep 27	6.3	Jul 29	5.8	Sep 10 1995
INSTANTANEOUS PEAK FLOW			3830	Sep 16	<b>b</b> 8100	Jun 29 1973
INSTANTANEOUS PEAK STAGE			8.00	Sep 16	10.08	Jun 29 1973
10 PERCENT EXCEEDS	101		62		112	
50 PERCENT EXCEEDS	30		20		42	
90 PERCENT EXCEEDS	15		9.5		15	

<sup>a</sup> Also Oct. 1-3.

<sup>b</sup> From rating curve extended above 7,800 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 9.92 ft.



## CHRISTINA RIVER BASIN

01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA--Continued

## WATER-QUALITY RECORDS

**PERIOD OF RECORD.**--Water years 1965, 1970-72, 1995 to current year.**PERIOD OF DAILY RECORD.**--

WATER TEMPERATURE: January 1995 to current year.

**INSTRUMENTATION.**--Temperature probe interfaced with a data collection platform.**REMARKS.**--Interruptions in the record were due to malfunctions of the equipment.**EXTREMES FOR PERIOD OF DAILY RECORD.**--

WATER TEMPERATURE: Maximum, 29.0°C, July 6, 1999; minimum, 0.0°C, many days during winters.

**EXTREMES FOR CURRENT YEAR.**--

WATER TEMPERATURE: Maximum, 29.0°C, July 6; minimum 0.0°C, Jan. 2, 3.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	DIS- CHARGE, INST- CUBIC FEET PER SECOND (00061)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, µM-MF (COLS./ 100 ML) (31616)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)
OCT 1998										
08...	1200	1028	1028	47	--	--	209	15.5	3700	--
MAR 1999										
22...	0945	1028	1028	734	12.7	7.7	139	5.0	5100	--
APR										
07...	1550	1028	1028	39	12.1	8.3	213	15.5	K2	--
MAY										
05...	0638	1028	1028	34	9.6	7.3	228	13.5	130	--
18...	0938	1028	1028	25	9.8	7.4	221	14.0	410	240
JUN										
01...	1545	1028	1028	20	9.2	7.6	232	22.0	>600	--
JUL										
19...	--	1028	1028	7.4	8.3	7.3	236	25.0	420	--
AUG										
16...	1330	1028	1028	9.4	10.0	7.7	254	23.5	330	--
26...	0901	1028	1028	27	--	--	172	20.0	9200	K1400
SEP										
13...	1215	1028	1028	7.9	9.3	7.2	254	17.5	450	500
16...	0932	1028	1028	305	--	--	--	18.0	16000	12000

## CHRISTINA RIVER BASIN

## 01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.5	16.5	17.5	9.5	7.5	8.5	8.0	7.0	7.5	.5	.5	.5
2	16.5	13.0	14.0	9.5	8.5	9.0	7.5	5.5	6.0	.5	.0	.5
3	13.5	11.5	12.0	9.0	7.0	8.0	8.0	6.0	6.5	1.5	.0	.5
4	12.5	12.0	12.0	7.5	7.0	7.5	10.0	8.0	8.5	1.0	1.0	1.0
5	14.0	12.0	13.0	7.0	5.5	6.0	10.5	9.5	10.0	1.0	1.0	1.0
6	14.0	12.0	13.0	6.0	5.0	5.5	10.5	9.5	10.0	1.0	1.0	1.0
7	14.5	13.5	14.0	7.0	5.0	6.0	11.0	9.5	10.0	1.0	1.0	1.0
8	15.5	14.5	15.0	8.0	7.0	7.5	11.0	9.5	10.5	1.0	.5	.5
9	15.5	15.0	15.5	8.0	7.5	7.5	9.5	7.5	8.5	1.0	.5	1.0
10	15.0	14.5	15.0	8.0	6.5	7.0	7.5	5.5	6.0	.5	.5	.5
11	15.5	14.0	14.5	10.0	8.0	9.5	6.0	5.0	5.5	.5	.5	.5
12	15.0	14.0	14.5	9.0	7.0	7.5	5.0	4.0	4.5	.5	.5	.5
13	16.0	14.5	15.0	7.5	6.0	6.5	5.5	5.0	5.0	.5	.5	.5
14	15.5	14.0	15.0	7.5	6.0	6.5	5.5	4.0	4.5	.5	.5	.5
15	14.0	12.0	13.0	8.0	7.0	7.5	4.0	2.5	3.0	1.0	.5	.5
16	13.0	11.0	12.0	7.5	6.5	7.0	3.5	2.5	3.0	1.0	.5	.5
17	13.0	10.5	12.0	9.0	7.0	8.0	4.0	3.0	3.5	1.0	.5	.5
18	14.0	11.5	12.5	8.5	6.5	7.5	4.0	3.0	3.5	1.0	.5	.5
19	14.5	13.5	14.0	7.0	5.5	6.0	3.5	2.5	3.0	2.0	.5	1.0
20	14.5	12.0	13.0	8.5	7.0	7.5	5.0	3.5	4.5	2.5	1.5	2.0
21	13.0	11.0	12.0	8.5	6.5	7.5	6.5	5.0	5.5	3.0	2.0	2.5
22	11.5	10.0	10.5	6.5	5.5	6.0	8.0	5.0	7.0	3.5	3.0	3.0
23	10.0	8.5	9.5	6.0	4.5	5.0	5.0	2.0	3.0	5.0	3.5	4.0
24	11.0	9.0	10.0	7.0	6.0	6.5	---	---	---	6.0	5.0	6.0
25	11.0	9.5	10.5	6.5	5.5	6.0	1.5	1.0	1.0	6.0	4.5	5.0
26	12.0	10.0	11.0	7.5	5.5	6.5	1.0	.5	1.0	4.5	3.5	4.0
27	12.0	11.5	12.0	7.0	6.5	7.0	1.0	.5	1.0	4.0	3.0	3.5
28	12.5	11.5	12.0	6.5	5.0	6.0	1.0	.5	.5	4.5	4.0	4.0
29	12.5	10.5	11.5	7.0	5.5	6.0	1.0	.5	1.0	4.5	4.5	4.5
30	10.5	9.0	9.5	7.5	6.5	7.0	1.5	.5	1.0	4.5	3.0	3.5
31	9.5	8.0	9.0	---	---	---	.5	.5	.5	3.5	2.5	2.5
MONTH	18.5	8.0	12.7	10.0	4.5	7.0	11.0	.5	4.8	6.0	.0	1.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	2.5	1.5	2.0	4.5	4.0	4.0	---	---	---	17.0	11.0	14.0
2	3.5	1.5	2.5	4.5	3.5	4.0	---	---	---	16.5	11.0	14.0
3	4.5	3.5	4.0	6.5	4.0	5.0	---	---	---	14.5	12.0	13.0
4	4.5	4.0	4.0	6.5	5.0	6.0	---	---	---	15.5	12.5	14.0
5	4.5	4.0	4.0	5.0	4.0	4.5	---	---	---	18.5	13.0	15.5
6	4.0	3.5	3.5	4.5	4.0	4.5	14.5	8.5	11.5	17.0	15.0	15.5
7	4.0	3.5	3.5	4.5	3.5	4.0	16.0	9.5	12.5	15.0	14.0	14.5
8	3.5	3.0	3.5	3.5	2.5	3.0	17.5	10.5	14.0	17.5	14.5	15.5
9	3.5	2.5	3.0	3.0	2.5	2.5	15.5	10.0	12.5	19.5	14.5	16.5
10	4.0	3.0	3.5	4.0	2.5	3.0	13.0	9.0	11.0	19.0	13.5	16.5
11	4.5	3.0	3.5	4.0	3.0	3.5	10.5	8.5	9.0	19.5	13.5	16.5
12	6.0	4.0	5.0	4.0	2.5	3.0	11.5	8.5	9.5	20.5	14.0	17.0
13	5.5	4.0	5.0	4.5	3.0	3.5	13.5	7.5	10.0	18.5	14.5	16.0
14	4.0	3.0	3.5	---	---	---	14.5	8.0	11.0	18.0	12.5	15.0
15	3.0	2.0	2.5	3.5	2.0	3.0	12.5	8.5	10.5	17.0	12.5	14.5
16	4.0	2.5	3.0	4.5	3.0	3.5	11.0	10.0	10.5	15.5	12.0	14.0
17	4.0	3.5	3.5	6.0	4.0	4.5	12.0	9.5	10.5	16.5	12.5	14.5
18	4.5	4.0	4.5	7.5	5.5	6.5	12.5	8.5	10.5	19.0	14.0	16.0
19	4.5	4.0	4.5	7.0	6.0	6.5	11.5	7.5	9.5	17.5	16.5	17.0
20	4.5	4.0	4.0	7.0	6.0	6.5	10.5	8.5	9.0	19.5	15.0	17.0
21	4.0	3.0	3.5	7.0	6.0	6.0	11.5	7.0	9.5	19.0	13.5	16.5
22	3.5	2.0	2.5	6.0	5.5	6.0	16.0	9.0	12.0	19.5	14.5	17.5
23	2.0	1.5	2.0	7.5	5.5	6.5	14.5	11.5	12.5	18.5	16.5	17.0
24	2.0	1.5	1.5	8.5	7.0	7.5	15.0	9.0	11.5	17.0	15.5	16.0
25	2.5	1.5	2.0	9.0	8.0	8.5	15.5	8.5	11.5	17.5	13.5	15.5
26	3.0	2.0	2.5	9.5	8.0	8.5	16.5	9.0	12.5	17.5	13.5	15.5
27	3.5	2.5	3.0	9.0	8.0	8.5	17.0	11.0	13.5	18.0	14.0	16.0
28	4.5	3.5	4.0	---	---	---	14.5	11.0	13.0	19.5	13.5	16.5
29	---	---	---	11.5	9.0	10.0	17.0	11.0	13.5	21.0	15.5	18.0
30	---	---	---	12.0	10.5	11.0	17.0	11.0	14.0	22.0	17.0	19.5
31	---	---	---	---	---	---	---	---	---	21.5	17.5	19.5
MONTH	6.0	1.5	3.3	12.0	2.0	5.5	17.5	7.0	11.4	22.0	11.0	15.9

