

## 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 National Geodetic Vertical Datum of 1929. Sept. 10, 1943, to Dec. 31, 1951, nonrecording gage at site 1,100 ft downstream at different datum. Satellite and landline telemetry at station.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. 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 the Pennsylvania American Water Company.

**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)
Feb. 23	1700	1,200	5.97	June 21	0300	*3,500	*7.80
Mar. 9	2200	748	5.42	Aug. 9	2330	1,610	6.39
Mar. 21	0430	848	5.55	Sept. 15	1100	928	5.65
May 26	1000	896	5.61	Sept. 23	1730	1,330	6.10
June 4	1100	1,090	5.84				

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	6.9	35	26	258	e34	52	75	45	185	57	29	29
2	8.0	23	22	350	e37	168	68	45	93	56	32	111
3	7.7	18	22	150	e40	295	62	42	62	63	27	69
4	8.8	16	20	218	e42	106	59	40	641	57	79	156
5	8.8	16	21	103	e44	193	61	41	278	53	57	89
6	7.8	37	e19	85	e32	506	59	43	127	55	49	50
7	6.9	27	e18	73	e33	183	58	42	194	68	36	42
8	6.5	18	e19	71	e32	128	68	49	219	64	31	37
9	7.3	16	e18	90	e30	390	109	50	121	52	196	34
10	14	15	e20	83	e31	214	103	48	90	50	467	32
11	138	21	e125	60	e29	89	201	45	76	53	112	30
12	100	74	291	51	e26	109	150	43	69	49	76	30
13	27	113	147	50	e25	191	89	40	135	44	55	46
14	15	34	418	47	e24	161	68	38	193	39	48	95
15	11	25	153	47	e24	120	62	36	162	38	43	492
16	90	48	82	42	e15	129	61	38	85	37	41	274
17	93	260	58	e36	e20	145	56	44	69	34	47	99
18	27	183	49	e33	e30	107	55	39	136	33	40	81
19	18	51	47	e34	e32	79	55	38	97	34	37	421
20	15	38	185	e36	e34	220	53	35	683	30	34	103
21	13	33	123	e33	e36	493	52	41	1430	30	33	68
22	11	42	65	e29	e250	148	56	40	252	36	32	59
23	11	39	55	e25	767	103	51	39	168	63	32	666
24	10	29	48	e26	460	82	48	46	125	40	28	172
25	11	26	138	e27	188	73	47	56	103	33	27	95
26	36	25	141	e28	110	71	77	392	89	29	29	86
27	26	30	89	e27	71	88	71	132	79	29	30	76
28	15	33	68	e26	59	68	53	73	69	28	29	116
29	17	27	61	e28	---	78	50	59	65	27	27	79
30	71	27	57	e30	---	128	48	50	62	25	52	62
31	119	---	67	e32	---	121	---	47	---	25	33	---
TOTAL	956.7	1379	2672	2228	2555	5038	2125	1816	6157	1331	1888	3799
MEAN	30.9	46.0	86.2	71.9	91.2	163	70.8	58.6	205	42.9	60.9	127
MAX	138	260	418	350	767	506	201	392	1430	68	467	666
MIN	6.5	15	18	25	15	52	47	35	62	25	27	29
(†)	5.6	5.7	5.8	5.7	6.6	6.8	6.4	5.9	5.8	6.6	6.1	6.2

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

	2002	2002	2002	1981	2002	2002	2002	2002	1999	1999	2002	2002
MEAN	37.0	53.9	68.4	77.4	84.4	97.6	85.6	71.6	62.4	47.4	31.9	38.8
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	11.2	11.1	14.4	15.5	19.6	31.3	25.4	29.6	17.5	9.62	5.43	8.06
(WY)	2002	2002	2002	1981	2002	2002	2002	1999	1999	2002	2002	2002

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

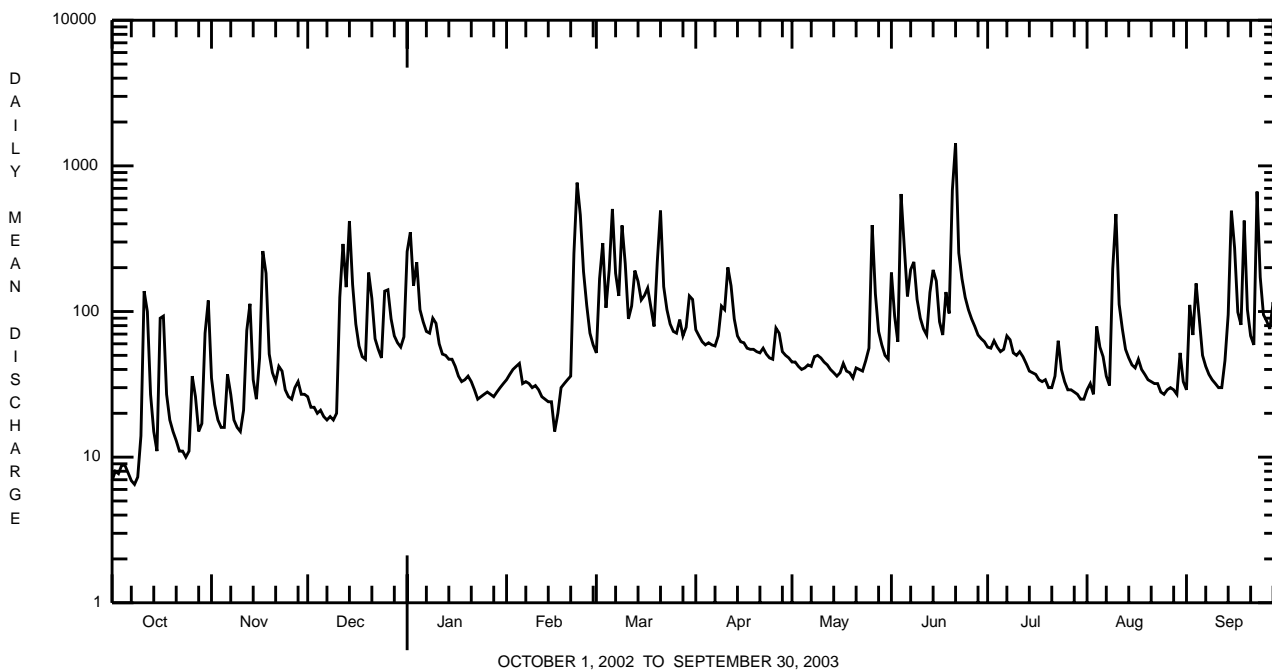
e Estimated.

CHRISTINA RIVER BASIN

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

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	11437.0		31944.7			
ANNUAL MEAN	31.3		87.5		63.0	
HIGHEST ANNUAL MEAN					98.6 1979	
LOWEST ANNUAL MEAN					20.7 2002	
HIGHEST DAILY MEAN	418	Dec 14	1430	Jun 21	3400	Jun 22 1972
LOWEST DAILY MEAN	3.0	Aug 23	6.5	Oct 8	3.0	Aug 23 2002
ANNUAL SEVEN-DAY MINIMUM	3.2	Aug 17	7.7	Oct 3	3.2	Aug 17 2002
MAXIMUM PEAK FLOW			3500	Jun 21	a8100	Jun 29 1973
MAXIMUM PEAK STAGE			7.80	Jun 21	10.08	Jun 29 1973
10 PERCENT EXCEEDS	67		184		111	
50 PERCENT EXCEEDS	20		50		41	
90 PERCENT EXCEEDS	5.7		21		15	

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



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## 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.--Water temperature records rated good.

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, 25.0°C, Aug. 14; minimum 0.0°C, many days during winter.

## WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.0	15.5	16.5	7.5	5.5	6.5	3.5	1.5	2.5	5.0	3.5	4.0
2	19.5	17.0	18.5	6.5	5.5	6.0	2.5	0.5	1.5	3.5	3.0	3.5
3	20.5	18.5	19.5	6.0	4.0	5.0	2.5	0.0	1.0	3.5	3.0	3.5
4	20.5	19.5	19.5	7.0	4.5	6.0	0.5	0.0	0.5	3.5	2.5	3.0
5	21.0	19.5	20.0	7.0	5.5	6.5	0.5	0.0	0.0	3.0	1.5	2.5
6	20.0	17.0	18.0	8.5	7.0	7.5	0.5	0.0	0.5	3.5	2.0	2.5
7	19.0	17.0	17.5	8.0	6.5	7.5	0.5	0.0	0.0	2.5	1.5	2.0
8	17.0	14.0	15.0	7.5	5.0	6.5	0.5	0.0	0.5	4.0	2.0	3.0
9	14.0	12.5	13.5	9.0	6.0	7.5	0.5	0.0	0.5	4.5	2.0	3.5
10	15.5	14.0	15.0	12.0	8.0	9.5	0.5	0.0	0.5	4.5	3.0	4.0
11	15.5	15.0	15.5	14.0	12.0	13.5	0.5	0.0	0.5	3.5	1.0	2.0
12	16.0	15.5	15.5	13.0	11.5	12.0	2.0	0.5	1.5	1.5	0.0	0.5
13	16.0	15.5	16.0	11.5	9.0	10.5	3.0	1.5	2.0	1.0	0.0	0.5
14	16.0	12.5	14.0	9.0	7.0	8.0	3.5	2.5	3.0	1.0	0.0	0.5
15	12.5	10.0	11.0	9.5	7.5	8.5	4.5	3.5	4.0	1.5	0.0	0.5
16	12.5	12.0	12.0	8.5	8.0	8.5	4.5	3.0	4.0	0.5	0.0	0.0
17	13.0	11.5	12.0	8.0	7.0	7.5	3.0	1.0	2.0	1.0	0.0	0.5
18	12.0	10.5	11.5	7.0	6.0	6.5	1.5	0.0	0.5	0.5	0.0	0.0
19	11.0	9.0	10.0	6.5	4.5	6.0	4.0	1.0	2.5	0.5	0.0	0.0
20	12.0	11.0	11.5	7.5	5.0	6.0	8.0	4.0	5.5	0.5	0.0	0.0
21	11.5	10.0	10.5	7.0	4.5	6.0	6.0	3.5	5.0	0.5	0.0	0.0
22	10.5	8.0	9.5	8.5	7.0	8.0	5.0	3.0	4.0	0.5	0.0	0.0
23	10.0	8.5	9.5	7.5	5.5	6.0	5.0	3.5	4.5	0.5	0.0	0.0
24	10.0	8.5	9.0	6.5	4.5	5.5	4.0	2.5	3.5	0.5	0.0	0.0
25	9.0	8.0	8.5	7.0	4.0	5.5	3.5	1.0	2.0	0.5	0.0	0.0
26	11.5	9.0	10.0	7.0	5.5	6.5	2.5	1.0	1.5	0.5	0.0	0.0
27	11.0	9.5	10.5	6.5	4.0	5.0	2.5	2.0	2.0	0.0	0.0	0.0
28	10.5	9.0	10.0	4.0	2.0	3.0	2.5	1.0	2.0	0.0	0.0	0.0
29	9.0	7.0	8.0	3.0	1.5	2.0	3.5	2.0	2.5	0.0	0.0	0.0
30	7.0	6.5	6.5	4.0	2.5	3.5	3.5	1.5	2.5	0.5	0.0	0.0
31	7.0	6.5	6.5	---	---	---	5.0	3.5	4.0	0.5	0.0	0.5
MONTH	21.0	6.5	12.9	14.0	1.5	6.9	8.0	0.0	2.1	5.0	0.0	1.2

