

CHRISTINA RIVER BASIN

01480300 WEST BRANCH BRANDYWINE CREEK NEAR HONEY BROOK, PA

LOCATION.--Lat 40°04'22", long 75°51'40", Chester County, Hydrologic Unit 02040205, on right bank 100 ft upstream from bridge on SR 4007 at Birdell, 0.4 mi downstream from Two Log Run, and 3.0 mi southeast of Honey Brook.

DRAINAGE AREA.--18.7 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1960 to current year.

REVISED RECORDS.--WDR PA-73-1: 1972(P). WDR PA-99-1: 1972, 1973, 1975, 1976, 1978, 1979, 1982, 1984, 1985, 1987-89, 1996, 1997 (P).

GAGE.--Water-stage recorder and crest-stage gage. Prior to July 1990, water-stage recorder at site 130 ft downstream on right bank at same datum. Datum of gage is 591.20 ft above sea level.

REMARKS.--Records fair, except those above 1,000 ft³/s, and those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Mar. 22	0300	1,770	8.29	June 19	0230	*1,790	*8.32

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	11	14	13	e12	27	23	18	16	15	11	20
2	12	35	13	14	e11	24	22	20	14	14	12	78
3	10	47	13	15	e10	21	23	18	13	14	12	22
4	16	17	12	27	e9.7	19	33	17	12	16	31	16
5	38	14	11	36	e9.5	18	24	17	13	14	11	11
6	16	12	83	18	e10	17	22	16	33	13	10	10
7	13	11	28	16	e9.6	17	20	15	21	13	11	9.7
8	11	11	19	14	e11	17	19	15	15	11	9.8	9.5
9	11	11	16	14	e9.7	17	52	14	14	11	12	8.8
10	121	10	31	33	e9.5	16	33	19	12	14	9.9	8.5
11	32	9.7	26	29	e9.4	21	23	24	11	12	9.6	9.1
12	18	9.4	17	19	e9.3	44	22	16	15	11	9.0	9.1
13	15	9.2	18	e15	e9.3	22	19	17	56	11	9.1	44
14	15	9.2	106	e14	e26	19	19	40	20	12	14	14
15	14	8.9	49	e12	e40	18	20	16	18	14	14	90
16	12	8.6	26	e11	e35	17	22	14	18	13	13	17
17	12	8.4	20	e11	e35	48	46	14	14	12	9.6	13
18	17	8.4	17	e10	e25	22	47	14	61	11	9.8	11
19	13	8.9	16	e10	e65	19	28	33	465	12	9.4	20
20	19	8.7	21	e9.9	62	18	23	63	27	13	8.3	28
21	18	9.8	32	e11	39	291	99	32	23	11	8.4	14
22	14	9.4	20	e10	46	776	72	70	126	9.9	8.2	12
23	18	9.9	e15	e10	72	59	33	80	25	9.4	8.6	11
24	14	11	e14	e9.8	88	39	26	76	19	10	9.7	12
25	13	10	13	e9.7	81	32	24	29	18	11	9.2	15
26	12	19	13	e12	58	28	23	21	19	18	8.2	209
27	12	87	14	e11	37	28	22	19	19	19	7.7	36
28	11	22	13	e10	151	103	21	20	19	13	11	21
29	11	16	13	e9.8	33	35	19	18	22	11	8.9	17
30	11	15	13	e9.6	---	29	18	16	20	9.8	14	15
31	11	---	13	e9.5	---	25	---	16	---	11	15	---
TOTAL	578	477.5	729	453.3	1023.0	1886	897	817	1178	389.1	344.4	810.7
MEAN	18.6	15.9	23.5	14.6	35.3	60.8	29.9	26.4	39.3	12.6	11.1	27.0
MAX	121	87	106	36	151	776	99	80	465	19	31	209
MIN	10	8.4	11	9.5	9.3	16	18	14	11	9.4	7.7	8.5
CFSM	1.00	.85	1.26	.78	1.89	3.25	1.60	1.41	2.10	.67	.59	1.45
IN.	1.15	.95	1.45	.90	2.04	3.75	1.78	1.63	2.34	.77	.69	1.61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2000, BY WATER YEAR (WY)

MEAN	17.0	24.6	29.1	35.4	37.4	41.8	33.2	25.9	22.6	20.6	12.6	17.2
MAX	68.5	58.6	107	136	85.1	110	83.8	74.6	96.6	106	25.8	63.1
(WY)	1997	1973	1997	1996	1979	1994	1983	1989	1972	1984	1990	1960
MIN	5.74	7.35	7.65	7.03	14.3	15.3	11.7	8.84	6.46	3.79	3.31	3.62
(WY)	1965	1982	1999	1981	1969	1981	1963	1963	1963	1963	1963	1964

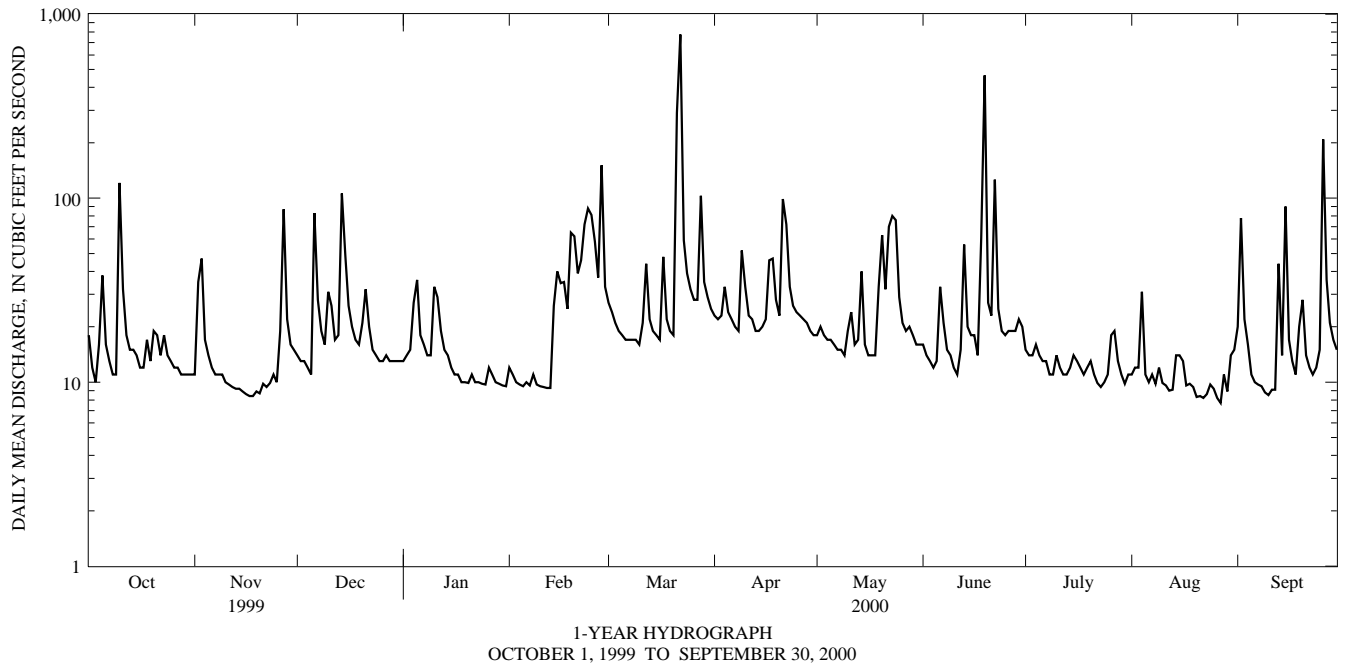
e Estimated.

CHRISTINA RIVER BASIN

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SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1960 - 2000	
ANNUAL TOTAL	7989.1		9583.0			
ANNUAL MEAN	21.9		26.2		26.3	
HIGHEST ANNUAL MEAN					46.3	
LOWEST ANNUAL MEAN					12.8	
HIGHEST DAILY MEAN	1040	Sep 16	776	Mar 22	1400	Jun 22 1972
LOWEST DAILY MEAN	1.8	Aug 7	7.7	Aug 27	1.7	Aug 19 1963
ANNUAL SEVEN-DAY MINIMUM	2.1	Aug 2	8.6	Aug 21	2.1	Sep 7 1966
INSTANTANEOUS PEAK FLOW			a1790	Jun 19	a3800	Jan 19 1996
INSTANTANEOUS PEAK STAGE			8.32	Jun 19	11.62	Jan 19 1996
INSTANTANEOUS LOW FLOW			b3.5	Jan 17	1.7	Aug 15 1963
ANNUAL RUNOFF (CFSM)	1.17		1.40		1.41	
ANNUAL RUNOFF (INCHES)	15.89		19.06		19.12	
10 PERCENT EXCEEDS	32		44		41	
50 PERCENT EXCEEDS	13		15		15	
90 PERCENT EXCEEDS	3.5		9.6		6.9	

a From rating curve extended above 1,000 ft³/s.
 b Result of freeze-up.



1-YEAR HYDROGRAPH
 OCTOBER 1, 1999 TO SEPTEMBER 30, 2000

CHRISTINA RIVER BASIN

01480300 WEST BRANCH BRANDYWINE CREEK NEAR HONEY BROOK, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	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)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 1999 22...	80020	1028	14	10.0	7.3	303	11.5	110	26

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)
OCT 1999 22...	9.8	4.9	.6	14	22	57	23	<.10	16

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	BORON, DIS-SOLVED (µG/L AS B) (01020)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 1999 22...	26	<.020	4.48	.017	.115	179	40	60

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01480300 WEST BRANCH BRANDYWINE CREEK NEAR HONEY BROOK, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATESREMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 μm . Each sample covered a total area of 3.2 m^2 .

Date	10/22/99
Benthic Macroinvertebrate	Count
Nematoda (Nematodes)	1
Nemertea (Proboscis Worms)	
Enopla	
Hoploneurata	
Tetrastemmatidae	
<i>Prostoma</i>	4
Mollusca	
Gastropoda (Snails)	
Basommatophora	
Ancyliidae	
<i>Ferrissia</i>	12
Planorbidae	
<i>Gyraulus</i>	1
Annelida (Segmented Worms)	
Oligochaeta	1
Tubificida	
Naididae	3
Arthropoda	
Acariformes	
Hydrachnidia (Water Mites)	11
Crustacea	
Amphipoda (Scuds)	
Gammaridae	
<i>Gammarus</i>	1
Insecta	
Ephemeroptera (Mayflies)	
Baetidae	
<i>Baetis</i>	4
Ephemeridae	
<i>Ephemerella</i>	2
Ephemerellidae	
<i>Serratella</i>	5
Heptageniidae	
<i>Stenonema</i>	18
Isonychiidae	
<i>Isonychia</i>	2
Plecoptera (Stoneflies)	
Capniidae	2
Taeniopterygidae	
<i>Taeniopteryx</i>	29
Megaloptera	
Corydalidae (Fishflies And Dobsonflies)	
<i>Corydalus</i>	5
Sialidae (Alderflies)	
<i>Sialis</i>	2

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01480300 WEST BRANCH BRANDYWINE CREEK NEAR HONEY BROOK, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/22/99
Benthic Macroinvertebrate	Count
Trichoptera (Caddisflies)	
Hydropsychidae	
<i>Cheumatopsyche</i>	480
<i>Hydropsyche</i>	820
Hydroptilidae	
<i>Hydroptila</i>	4
<i>Leucotrichia</i>	2
Psychomyiidae	
<i>Psychomyia</i>	1
Coleoptera (Beetles)	
Elmidae (Riffle Beetles)	
<i>Ancyronyx</i>	15
<i>Dubiraphia</i>	13
<i>Optioservus</i>	162
<i>Oulimnius</i>	17
<i>Stenelmis</i>	533
Diptera (True Flies)	
Athericidae	
<i>Atherix</i>	2
Chironomidae (Midges)	335
Empididae (Dance Flies)	
<i>Hemerodromia</i>	5
Tipulidae (Crane Flies)	
<i>Antocha</i>	79
<i>Hexatoma</i>	8
<i>Tipula</i>	1
Total count	2580
Total number of taxa	33