

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair, except those above 1,000 ft³/s, and those for estimated daily discharges, which are poor. Some regulation at low flow by pumpage from the Northwestern Chester County Wastewater Treatment plant. 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)
June 7	0145	*365	*5.12	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	5.9	5.5	e4.8	15	4.8	16	11	7.2	5.6	1.8	5.0
2	6.1	5.9	4.9	e5.0	11	4.7	11	56	6.3	5.2	2.2	5.7
3	6.1	5.4	5.6	5.4	8.3	49	12	54	6.4	4.7	3.2	3.7
4	5.5	5.4	6.0	5.3	8.3	13	15	14	6.4	4.5	6.2	2.8
5	5.3	5.9	6.0	5.0	6.8	8.2	11	11	7.1	4.6	3.2	2.4
6	5.3	5.7	6.0	8.3	6.8	8.0	9.4	9.8	36	4.2	2.7	2.1
7	5.2	5.9	6.0	18	7.3	7.5	8.7	9.2	96	4.7	2.3	1.5
8	5.4	6.1	6.7	10	7.0	6.8	8.9	8.6	13	4.8	1.6	1.5
9	5.6	5.7	13	9.4	6.0	6.5	9.2	20	9.6	4.8	2.0	2.0
10	6.2	5.4	7.8	12	6.4	6.9	11	14	8.8	4.9	1.4	1.9
11	5.8	5.2	7.4	97	7.5	6.1	8.6	8.8	8.1	4.4	1.4	1.9
12	5.6	5.9	7.0	22	6.4	6.3	8.4	11	7.8	3.5	1.8	1.7
13	5.1	6.2	7.2	13	6.2	10	8.5	60	7.8	4.0	1.6	1.7
14	5.1	6.3	14	10	5.6	9.4	9.9	85	20	4.5	1.2	1.4
15	7.6	5.7	13	9.5	5.9	7.6	9.8	19	13	4.9	1.1	2.0
16	6.3	6.4	7.2	8.7	5.7	6.4	8.6	14	9.9	4.1	1.3	5.3
17	7.8	5.5	8.0	8.4	5.3	5.9	7.8	12	8.1	3.1	1.1	3.1
18	6.0	5.6	20	7.7	5.3	17	7.4	67	7.7	3.5	1.1	2.3
19	5.8	6.7	10	6.7	5.3	13	7.2	23	12	3.1	1.3	2.2
20	5.5	7.4	7.9	7.5	5.6	71	6.8	15	7.7	6.4	1.4	2.1
21	5.2	7.1	7.0	7.2	5.9	30	6.7	13	7.1	3.6	1.0	1.5
22	6.2	6.3	6.1	7.3	5.3	15	12	11	6.1	3.8	1.0	1.4
23	6.2	6.9	6.1	10	4.7	11	8.8	11	5.6	3.7	1.6	2.2
24	5.7	6.3	10	97	4.5	10	7.3	9.8	6.0	4.6	3.1	2.1
25	5.9	14	8.8	26	5.1	10	8.3	8.5	6.1	3.3	6.4	2.0
26	5.2	14	7.2	11	5.1	11	8.4	8.5	5.7	3.5	2.7	3.2
27	4.9	6.7	6.9	8.8	5.8	33	6.4	9.4	6.2	3.0	2.2	19
28	5.0	6.0	6.8	8.3	5.2	15	40	11	13	3.8	2.3	27
29	5.7	5.9	5.8	8.2	---	13	24	8.9	5.9	4.0	6.1	5.4
30	5.6	6.3	5.2	8.4	---	11	12	8.6	5.6	2.9	4.2	4.3
31	5.6	---	e5.1	17	---	11	---	8.4	---	2.5	2.1	---
TOTAL	178.8	197.7	244.2	482.9	183.3	438.1	329.1	630.5	366.2	128.2	72.6	120.4
MEAN	5.77	6.59	7.88	15.6	6.55	14.1	11.0	20.3	12.2	4.14	2.34	4.01
MAX	7.8	14	20	97	15	71	40	85	96	6.4	6.4	27
MIN	4.9	5.2	4.9	4.8	4.5	4.7	6.4	8.4	5.6	2.5	1.0	1.4
CFSM	0.31	0.35	0.42	0.83	0.35	0.76	0.59	1.09	0.65	0.22	0.13	0.21
IN.	0.36	0.39	0.49	0.96	0.36	0.87	0.65	1.25	0.73	0.26	0.14	0.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2002, BY WATER YEAR (WY)

MEAN	16.7	23.9	28.7	34.8	36.6	41.0	32.5	25.6	22.4	19.9	12.4	16.7
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	6.59	7.65	7.03	6.55	14.1	11.0	8.84	6.46	3.79	2.34	3.62
(WY)	1965	2002	1999	1981	2002	2002	2002	1963	1963	1963	2002	1964

e Estimated.

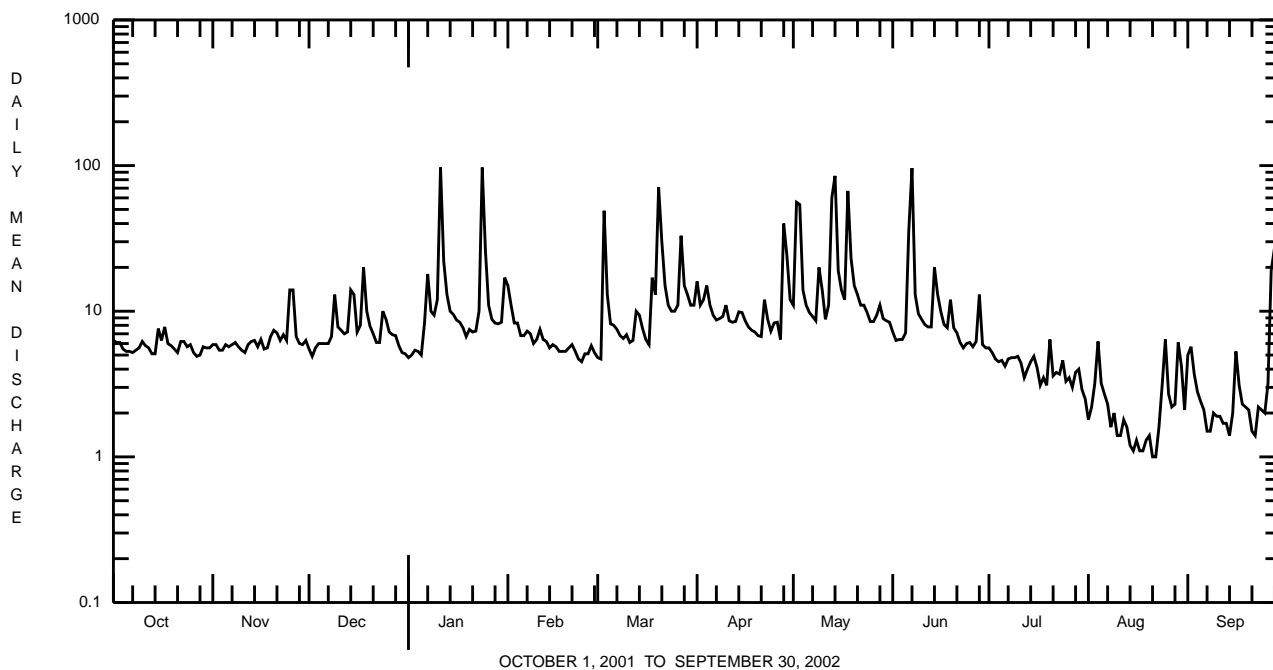
CHRISTINA RIVER BASIN

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

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1960 - 2002	
ANNUAL TOTAL	6424.9		3372.0		25.8	
ANNUAL MEAN	17.6		9.24		46.3	
HIGHEST ANNUAL MEAN					1984	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	262	Jun 23	97	Jan 11,24	1400	Jun 22 1972
LOWEST DAILY MEAN	3.7	Sep 16	1.0	Aug 21,22	1.0	Aug 21,22 2002
ANNUAL SEVEN-DAY MINIMUM	4.1	Sep 13	1.2	Aug 16	1.2	Aug 16 2002
MAXIMUM PEAK FLOW			365	Jun 7	a3800	Jan 19 1996
MAXIMUM PEAK STAGE			5.12	Jun 7	11.62	Jan 19 1996
INSTANTANEOUS LOW FLOW			0.83	Aug 14,19,20	0.83	Aug 14 2002 b
ANNUAL RUNOFF (CFSM)	0.94		0.49		1.38	
ANNUAL RUNOFF (INCHES)	12.78		6.71		18.73	
10 PERCENT EXCEEDS	31		14		40	
50 PERCENT EXCEEDS	9.9		6.3		15	
90 PERCENT EXCEEDS	5.3		2.2		6.7	

a From rating curve extended above 1,000 ft³/s on basis of runoff comparison with nearby stations.

b Also Aug. 19, 20, 2002.r



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WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY	AGENCY	DIS-		PH	SPE-		CALCIUM	MAGNE-	POTAS-		ANC
		ANA-	COL-	CHARGE,		WATER	CIFIC		DIS-	SIUM,	SIUM,	SODIUM,	WATER
		LYZING	LECTING	INST.	OXYGEN,	WHOLE	CON-	TEMPER-	DIS-	DIS-	DIS-	DIS-	UNFLTRD
		SAMPLE	SAMPLE	FEET	DIS-	FIELD	DUCT-	ATURE	SOLVED	SOLVED	SOLVED	SOLVED	IT
		(CODE	(CODE	PER	SOLVED	(STAND-	ANCE	WATER	(MG/L	(MG/L	(MG/L	(MG/L	FIELD
		NUMBER)	NUMBER)	SECOND	(MG/L)	ARD	(µS/CM)	(DEG C)	AS CA)	AS MG)	AS K)	AS NA)	(MG/L AS
		(00028)	(00027)	(00061)	(00300)	UNITS)	(00095)	(00010)	(00915)	(00925)	(00935)	(00930)	(00419)
OCT 2001													
04...	1215	80020	1028	6.5	8.8	7.8	342	16.5	26.5	9.80	4.76	22.8	62
		CHLO-	SILICA,			NITRO-	NITRO-	NITRO-	ORTHO-				
		RIDE,	DIS-	SULFATE	AMMONIA	GEN,	GEN,	GEN,	PHOS-	BORON,	IRON,		
		DIS-	SOLVED	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	
		SOLVED	(MG/L	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	
		(MG/L	AS	(MG/L	(MG/L	(MG/L	(MG/L	(MG/L	(MG/L	(µG/L	(µG/L	(µG/L	
		AS CL)	AS	AS SO4)	AS N)	AS N)	AS N)	AS N)	AS P)	AS B)	AS FE)		
		(00940)	(00955)	(00945)	(00608)	(00631)	(00613)	(00671)	(01020)	(01046)			
OCT 2001													
04...		34.1	12.8	25.9	<.04	3.89	.029	.13	60	36			

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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 m².

Date	10/04/01
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Nematoda (NEMATODES)	53
Nemertea (PROBOSAS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<u>Prostoma</u> sp	11
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancyliidae	
<u>Ferrissia</u> sp	20
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	17
Tubificida	
Naididae	2
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	50
Crustacea	
Amphipoda (SCUDS)	
Crangonyctidae	
<u>Crangonyx</u> sp	1
Isopoda (AQUATIC SOWBUGS)	
Asellidae	
<u>Caecidotea</u> sp	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	27
Ephemerellidae	
<u>Serratella</u> sp	15
Heptageniidae	
<u>Stenonema</u> sp	69
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
<u>Argia</u> sp	1
Megaloptera	
Sialidae (ALDERFLIES)	
<u>Sialis</u> sp	1

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

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/04/01
Benthic Macroinvertebrate	Count
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Cheumatopsyche</u> sp	67
<u>Hydropsyche</u> sp	619
Hydroptilidae	
<u>Hydroptila</u> sp	54
<u>Leucotrichia</u> sp	13
Philopotamidae	
<u>Chimarra</u> sp	16
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Ancyronyx</u> sp	4
<u>Macronychus</u> sp	2
<u>Optioservus</u> sp	108
<u>Stenelmis</u> sp	506
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	3
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	
	624
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	19
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	9
Tabanidae (HORSE FLIES)	
<u>Tabanus</u> sp	2
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	49
<u>Tipula</u> sp	2
Total organisms	2366
Total number of taxa	30