



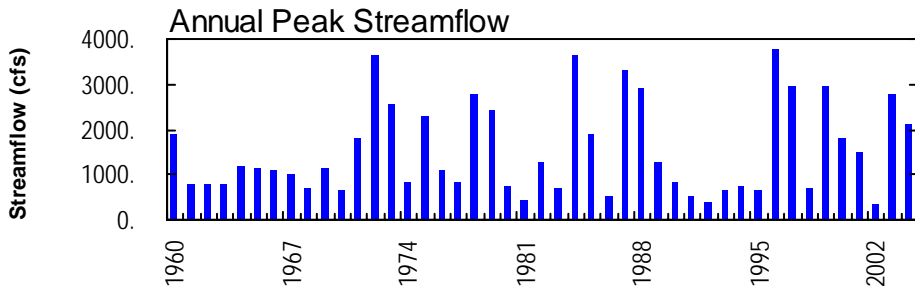
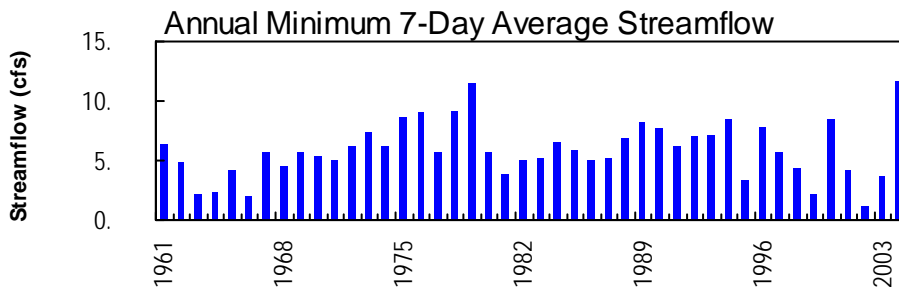
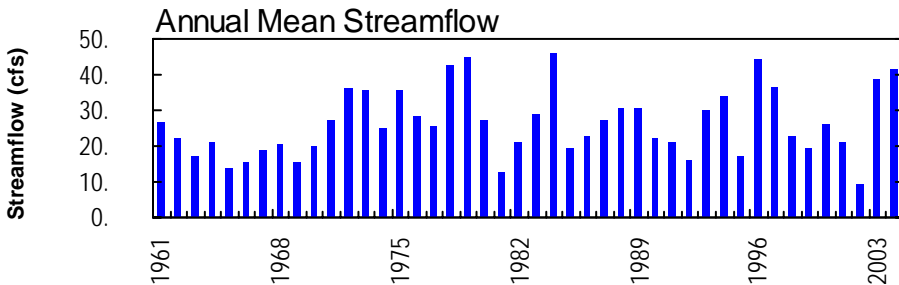
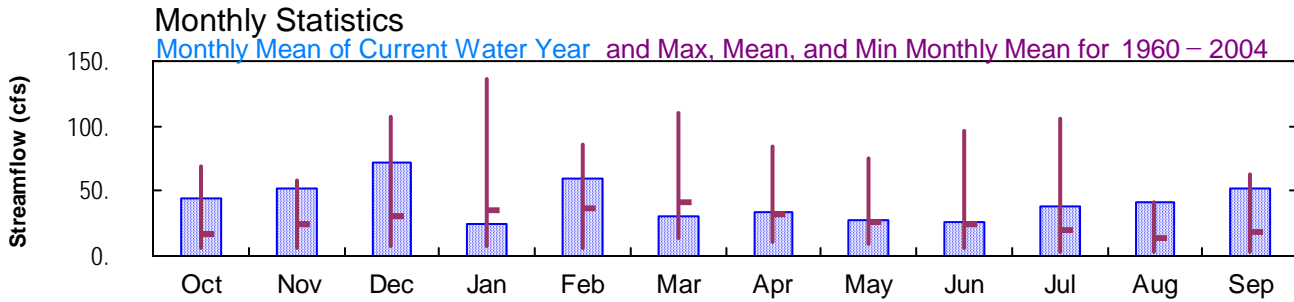
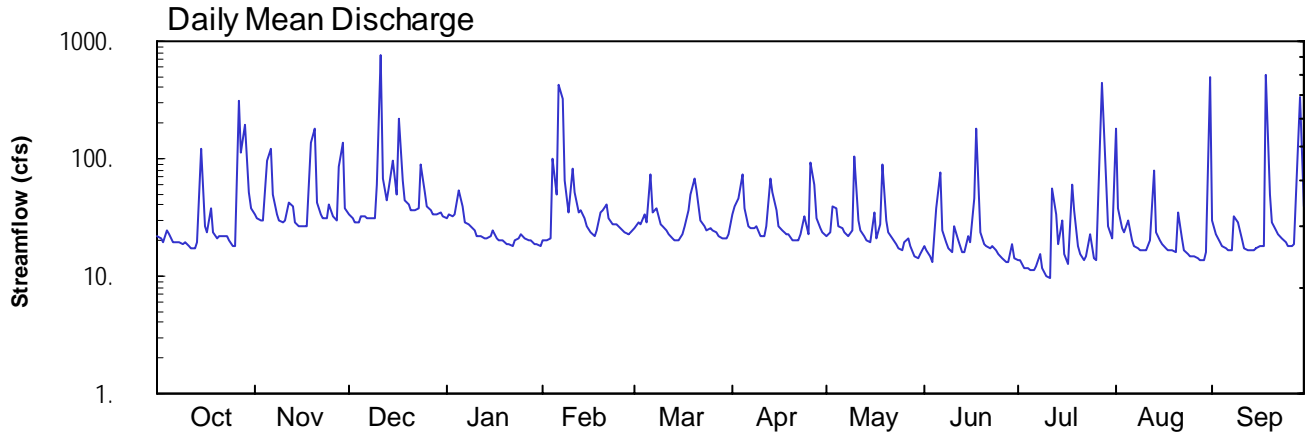
# 2004 Water Year CHRISTINA RIVER BASIN

## 01480300 West Branch Brandywine Creek near Honey Brook, PA

Latitude: 40° 04' 22"  
Chester County

Longitude: 075° 51' 40"  
Datum: 591.20 feet

Hydrologic Unit Code: 02040205  
Drainage Area: 18.7 mi<sup>2</sup>



**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 mi<sup>2</sup>.

**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 ft<sup>3</sup>/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 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)
Oct. 27	2030	632	6.16	June 18	0200	646	6.20
Nov. 5	2330	546	5.89	July 28	0245	1,410	7.69
Nov. 19	2230	609	6.09	Aug. 31	0430	*2,110	*8.85
Dec. 11	1045	1,490	7.82	Sept. 18	1445	1,610	8.01
Dec. 17	1245	504	5.75	Sept. 29	0130	1,130	7.21
Feb. 6	1645	1,120	7.19				

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	34	34	31	e20	25	34	22	18	14	182	30
2	21	31	31	34	e20	29	40	23	16	14	38	23
3	20	30	29	33	e21	27	45	39	15	12	26	20
4	25	29	29	33	e100	33	72	37	13	11	23	18
5	22	95	33	53	e50	29	37	26	37	11	30	17
6	20	119	33	39	425	73	27	25	75	11	21	17
7	19	50	31	29	323	35	25	24	24	12	18	17
8	19	34	30	28	65	37	25	22	19	15	17	32
9	19	29	31	27	35	27	26	24	17	12	16	29
10	19	29	60	e25	81	27	22	105	16	10	16	21
11	18	30	757	e22	51	25	21	30	26	9.8	17	17
12	17	42	68	e22	34	23	27	25	20	55	20	17
13	17	39	44	e21	36	21	67	22	16	34	78	17
14	19	29	56	e21	31	20	52	20	16	19	24	17
15	123	27	96	e22	27	21	36	19	21	30	20	17
16	27	26	50	e25	24	23	26	34	19	16	18	18
17	24	27	217	e21	22	27	24	21	45	13	17	18
18	38	26	66	e20	24	37	23	28	179	59	17	512
19	24	136	45	e20	35	50	22	89	23	37	16	49
20	21	180	40	e19	37	68	21	30	19	18	16	28
21	22	42	36	e19	40	53	20	23	18	15	35	24
22	22	34	37	e18	31	30	20	21	17	14	21	23
23	22	31	38	e20	28	27	23	18	18	15	17	21
24	20	31	88	e21	28	25	33	17	17	23	16	19
25	18	41	52	e23	26	25	23	16	15	14	15	18
26	18	32	39	e21	25	24	93	20	14	14	15	18
27	314	30	36	e20	24	24	61	21	13	142	14	18
28	113	86	34	e20	23	22	30	18	13	436	14	116
29	195	136	34	e19	24	21	26	15	18	64	14	341
30	52	38	35	e19	---	21	24	14	14	27	16	40
31	38	---	32	e18	---	23	---	15	---	21	488	---
TOTAL	1368	1543	2241	763	1710	952	1025	863	791	1197.8	1295	1572
MEAN	44.1	51.4	72.3	24.6	59.0	30.7	34.2	27.8	26.4	38.6	41.8	52.4
MAX	314	180	757	53	425	73	93	105	179	436	488	512
MIN	17	26	29	18	20	20	20	14	13	9.8	14	17
CFM	2.36	2.75	3.87	1.32	3.15	1.64	1.83	1.49	1.41	2.07	2.23	2.80
IN.	2.72	3.07	4.46	1.52	3.40	1.89	2.04	1.72	1.57	2.38	2.58	3.13

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2004, BY WATER YEAR (WY)**

MEAN	17.4	24.7	30.0	34.5	37.3	41.6	32.4	25.5	23.9	20.2	13.1	18.4
MAX	68.5	58.6	107	136	85.1	110	83.8	74.6	96.6	106	41.8	63.1
(WY)	1997	1973	1997	1996	1979	1994	1983	1989	1972	1984	2004	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 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1960 - 2004	
ANNUAL TOTAL	16498.3		15320.8			
ANNUAL MEAN	45.2		41.9		26.4	
HIGHEST ANNUAL MEAN					46.3	
LOWEST ANNUAL MEAN					9.24	
HIGHEST DAILY MEAN	757	Dec 11	757	Dec 11	1400	Jun 22 1972
LOWEST DAILY MEAN	e8.0	Feb 16	9.8	Jul 11	1.0	Aug 21 2002
ANNUAL SEVEN-DAY MINIMUM	9.5	Aug 20	12	Jul 5	1.2	Aug 16 2002
MAXIMUM PEAK FLOW			a2110	Aug 31	a3800	Jan 19 1996
MAXIMUM PEAK STAGE			8.85	Aug 31	11.62	Jan 19 1996
INSTANTANEOUS LOW FLOW			9.6	Jul 6,10-12	0.83	Aug 14 2002b
ANNUAL RUNOFF (CFSM)	2.42		2.24		1.41	
ANNUAL RUNOFF (INCHES)	32.82		30.48		19.21	
10 PERCENT EXCEEDS	87		66		41	
50 PERCENT EXCEEDS	22		24		15	
90 PERCENT EXCEEDS	11		16		6.7	

a From rating curve extended above 1,000 ft<sup>3</sup>/s on basis of runoff comparison with nearby stations.

b Also Aug. 19, 20, 2002.

e Estimated.

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 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd, field, std units (00400)	pH, water, unfltrd, lab, std units (00403)	Specif. conductance, wat unfltrd, lab, µS/cm 25 degC (90095)	Specif. conductance, wat unfltrd, lab, µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT 20...	0830	1028	80020	21	11.9	7.4	7.6	286	282	9.7	29.4	10.9	4.46
Date		Sodium, water, fltrd, mg/L (00930)	ANC, wat unfltrd, titr., field, mg/L as CaCO3 (00419)	Chloride, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + Nitrate, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Boron, water, fltrd, µg/L (01020)	Iron, water, fltrd, µg/L (01046)	
OCT 20...		12.4	65	22.3	15.8	22.7	<.04	5.75	.014	E.01	45	87	

CHRISTINA RIVER BASIN

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

BIOLOGICAL DATA  
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 µm. Each sample covered a total area of 2.4 m<sup>2</sup>.

Date	10/20/03
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	18
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<i>Prostoma</i>	22
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancyliidae	
<i>Ferrissia</i>	7
Bivalvia (CLAMS)	
Veneroidea	
Sphaeriidae	22
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	3
Tubificida	
Naididae	3
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	107
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<i>Acentrella</i>	5
<i>Baetis</i>	39
Ephemerellidae	
<i>Serratella</i>	11
Heptageniidae	
<i>Stenonema</i>	72
Isonychiidae	
<i>Isonychia</i>	1
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
<i>Argia</i>	1
Plecoptera (STONEFLIES)	
Capniidae	1
Taeniopterygidae	
<i>Taeniopteryx</i>	12

CHRISTINA RIVER BASIN

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

BIOLOGICAL DATA  
BENTHIC MACROINVERTEBRATES--Continued

Date	10/20/03
Benthic macroinvertebrate	Count
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<i>Corydalus</i>	3
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<i>Cheumatopsyche</i>	375
<i>Hydropsyche</i>	399
Hydroptilidae	
<i>Hydroptila</i>	21
<i>Leucotrichia</i>	3
Leptoceridae	
<i>Oecetis</i>	2
Philopotamidae	
<i>Chimarra</i>	16
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Ancyronyx</i>	10
<i>Dubiraphia</i>	7
<i>Macronychus</i>	11
<i>Optioservus</i>	80
<i>Oulimnius</i>	34
<i>Stenelmis</i>	1111
Psephenidae (WATER PENNIES)	
<i>Psephenus</i>	6
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	723
Empididae (DANCE FLIES)	
<i>Hemerodromia</i>	89
Simuliidae (BLACK FLIES)	
<i>Simulium</i>	33
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	101
<i>Dicranota</i>	1
<i>Hexatoma</i>	3
<i>Tipula</i>	1
Total Organisms	3353
Total Taxa	36