

CHRISTINA RIVER BASIN

01480638 BROAD RUN AT NORTHBROOK, PA

LOCATION.--Lat 39°55'49", long 75°41'06", Chester County, Hydrologic Unit 02040205, on right bank 50 ft upstream from Northbrook Road and 2.2 mi south of Marshelton.

DRAINAGE AREA.--6.39 mi².

PERIOD OF RECORD.--December 2002 to April 30, 2004, October 2004 to current year.

GAGE.--Water-stage recorder, crest-stage gage. Elevation of gage is 190.78 ft above NAVD of 1988.

REMARKS.--Records fair except those for estimated daily discharges and those above 200 ft³/s, which are poor. Several measurements of water temperature were made during the year.

REVISIONS.--The maximum discharge for water year 2004 has been revised to 324 ft³/s, Feb. 6, gage height, 5.67. Revised daily discharges for water year 2004 are given below. These figures supersede those published in the report for 2004.

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	21	33	22	19	e9.5	11	13	---	---	---	---	---
2	19	31	21	20	e9.5	12	15	---	---	---	---	---
3	18	30	20	20	40	11	16	---	---	---	---	---
4	19	28	20	20	26	13	23	---	---	---	---	---
5	17	34	22	23	16	12	14	---	---	---	---	---
6	16	34	22	18	102	20	12	---	---	---	---	---
7	15	28	20	17	71	14	12	---	---	---	---	---
8	15	25	19	e16	26	15	12	---	---	---	---	---
9	14	23	19	e15	22	13	12	---	---	---	---	---
10	14	22	31	e14	22	12	11	---	---	---	---	---
11	14	22	90	15	18	12	11	---	---	---	---	---
12	14	28	47	16	17	12	13	---	---	---	---	---
13	13	22	36	16	16	11	28	---	---	---	---	---
14	14	21	50	14	15	11	20	---	---	---	---	---
15	35	20	44	e13	14	11	15	---	---	---	---	---
16	19	19	33	e12	13	13	14	---	---	---	---	---
17	18	19	62	e12	12	13	13	---	---	---	---	---
18	19	19	42	e11	13	13	13	---	---	---	---	---
19	17	39	38	e11	13	20	13	---	---	---	---	---
20	16	41	33	e12	13	15	13	---	---	---	---	---
21	16	27	30	e12	14	14	13	---	---	---	---	---
22	16	25	29	e12	12	12	13	---	---	---	---	---
23	15	24	27	e11	12	11	19	---	---	---	---	---
24	14	24	43	e11	13	11	22	---	---	---	---	---
25	14	24	27	e11	12	11	14	---	---	---	---	---
26	14	22	24	e11	11	12	25	---	---	---	---	---
27	73	21	22	e10	11	12	21	---	---	---	---	---
28	42	37	22	e10	11	11	16	---	---	---	---	---
29	56	31	21	e10	11	11	14	---	---	---	---	---
30	39	24	21	e10	---	11	e12	---	---	---	---	---
31	36	---	20	e9.5	---	14	---	---	---	---	---	---
TOTAL	682	797	977	431.5	595.0	394	462	---	---	---	---	---
MEAN	22.0	26.6	31.5	13.9	20.5	12.7	15.4	---	---	---	---	---
MAX	73	41	90	23	102	20	28	---	---	---	---	---
MIN	13	19	19	9.5	9.5	11	11	---	---	---	---	---
CFSM	3.44	4.16	4.93	2.18	3.21	1.99	2.41	---	---	---	---	---
IN.	3.97	4.64	5.69	2.51	3.46	2.29	2.69	---	---	---	---	---

e Estimated.

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01480638 BROAD RUN AT NORTHBROOK, PA--Continued

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 170 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Nov. 28	0930	*255	*5.35	Apr. 2	2000	172	4.71
Mar. 28	2000	186	4.83	July 8	1200	188	4.85

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e16	8.7	44	13	14	14	24	14	6.5	7.8	3.4	2.3
2	e14	9.3	23	13	13	12	92	11	6.3	5.8	3.2	2.2
3	e14	8.6	21	14	13	12	89	11	7.8	4.8	3.1	2.0
4	e13	28	19	13	13	12	55	11	8.5	4.5	3.0	1.9
5	e12	17	18	18	13	12	42	10	7.0	5.4	2.8	1.8
6	e11	12	18	20	14	12	35	10	22	6.1	2.8	1.8
7	e11	11	25	14	14	14	31	9.9	26	4.9	2.9	1.9
8	11	9.8	19	17	14	15	34	9.5	7.7	55	3.4	1.9
9	11	9.5	21	14	15	12	26	9.1	6.8	8.3	3.8	1.7
10	10	9.8	38	15	16	12	24	8.9	6.4	6.1	4.2	1.7
11	9.7	11	25	14	13	12	23	8.8	6.1	5.5	3.4	1.7
12	10	21	21	16	12	12	22	8.5	5.8	4.9	3.4	1.8
13	9.6	22	20	15	11	12	21	8.2	5.7	4.8	3.3	1.7
14	14	14	18	82	20	11	19	8.2	5.5	4.8	3.1	3.5
15	21	13	17	32	23	11	18	8.0	5.3	5.2	3.1	7.2
16	15	13	17	29	15	11	17	7.9	5.2	5.4	3.3	2.9
17	10	12	16	25	14	11	16	7.7	5.2	10	4.1	3.0
18	9.8	13	17	21	13	11	16	7.6	5.0	6.2	3.0	3.1
19	15	12	17	21	12	11	15	7.4	4.9	5.2	3.0	2.3
20	11	12	14	21	12	12	14	10	4.8	4.7	3.2	2.2
21	11	12	14	19	14	11	14	8.9	4.7	4.4	2.9	2.1
22	10	12	14	20	15	11	14	8.0	4.6	4.1	2.6	2.0
23	10	11	43	19	14	36	17	7.7	4.4	3.9	2.4	1.9
24	10	14	21	18	13	19	19	7.9	4.3	3.6	2.3	1.8
25	9.4	14	16	17	13	15	13	8.0	4.3	4.2	2.3	1.9
26	9.2	11	15	17	13	13	12	7.8	4.5	3.9	2.3	2.1
27	9.2	11	14	15	13	13	12	7.3	4.8	4.1	2.2	2.0
28	9.1	116	13	15	13	70	12	7.2	4.9	4.5	2.8	1.8
29	10	32	15	15	---	36	11	7.2	4.7	3.9	2.6	1.9
30	13	24	14	15	---	28	13	6.9	4.7	3.5	2.6	1.9
31	10	---	14	14	---	25	---	6.6	---	3.5	2.6	---
TOTAL	359.0	523.7	621	611	392	518	770	270.2	204.4	209.0	93.1	68.0
MEAN	11.6	17.5	20.0	19.7	14.0	16.7	25.7	8.72	6.81	6.74	3.00	2.27
MAX	21	116	44	82	23	70	92	14	26	55	4.2	7.2
MIN	9.1	8.6	13	13	11	11	11	6.6	4.3	3.5	2.2	1.7
CFSM	1.81	2.73	3.13	3.08	2.19	2.61	4.02	1.36	1.07	1.06	0.47	0.35
IN.	2.09	3.05	3.62	3.56	2.28	3.02	4.48	1.57	1.19	1.22	0.54	0.40

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

	2004	2005	2003	2003	2003	2004	2003	2005	2005	2005	2005	2005
MEAN	16.8	22.0	24.4	15.2	15.7	17.5	18.0	9.17	17.0	8.95	6.28	16.1
MAX	22.0	26.6	31.5	19.7	20.5	23.0	25.7	9.63	27.3	11.2	9.56	29.9
(WY)	2004	2004	2004	2005	2004	2003	2005	2003	2003	2003	2003	2003
MIN	11.6	17.5	13.3	12.0	12.3	12.7	13.0	8.72	6.81	6.74	3.00	2.27
(WY)	2005	2005	2003	2003	2003	2004	2003	2005	2005	2005	2005	2005

e Estimated.

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01480638 BROAD RUN AT NORTHBROOK, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	3386.2		4639.4			
ANNUAL MEAN	15.9		12.7		15.8	
HIGHEST ANNUAL MEAN					20.4	
LOWEST ANNUAL MEAN					12.7	
HIGHEST DAILY MEAN	116	Nov 28	116	Nov 28	277	Sep 15 2003
LOWEST DAILY MEAN	8.6	Nov 3	1.7	Sep 9 ^a	1.7	Sep 9 2005
ANNUAL SEVEN-DAY MINIMUM	b 9.6	Oct 22	1.8	Sep 7	1.8	Sep 7 2005
MAXIMUM PEAK FLOW			c 255	Nov 28	c 4700	Sep 15 2003
MAXIMUM PEAK STAGE			5.35	Nov 28	8.04	Sep 15 2003
INSTANTANEOUS LOW FLOW			1.5	Sep 11,14	1.5	Sep 11,14 2005
ANNUAL RUNOFF (CFSM)	2.49		1.99		2.47	
ANNUAL RUNOFF (INCHES)	19.71		27.01		33.56	
10 PERCENT EXCEEDS	22		21		28	
50 PERCENT EXCEEDS	13		11		13	
90 PERCENT EXCEEDS	10		2.8		4.8	

a Also Sept. 10, 11, 13.

b Computed using estimated daily discharges.

c From rating curve extended above 181 ft³/s on basis of slope-area measurement at gage height 8.04 ft.

