

Water-Data Report 2011

01477800 SHELLPOT CREEK AT WILMINGTON, DE

Lower Delaware Basin
Brandywine-Christina Subbasin

LOCATION.--Lat 39°45'39.5", long 75°31'07.3" referenced to North American Datum of 1983, New Castle County, DE, Hydrologic Unit 02040205, on right bank 100 ft east of intersection of 44th and Pine Streets in Clifton Park, 700 ft downstream from bridge on North Market Street in Wilmington, 0.2 mi downstream from Matson Run, and 2.3 mi upstream from mouth.

DRAINAGE AREA.--7.46 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1945 to current year.

REVISED RECORDS.--WSP 1382: 1948(m).

GAGE.--Water-stage recorder, concrete control and crest stage gage. Datum of gage is 15.16 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those between 130 and 5,800 ft³/s, which are fair, and those for estimated daily discharges (backwater, ice effect and intake plug/lag), which are poor. Occasional regulation at low flow from unknown source upstream from station. U.S. Geological Survey satellite collection platform at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1940, that of July 5, 1989. Flood of Aug. 1, 1945, reached a stage of about 8.5 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 1	0235	*5,760	*10.37
Apr 16	2005	1,400	5.07
Aug 14	1335	1,540	5.32
Aug 19	0240	2,600	6.81
Aug 27	2215	4,400	8.88
Sep 6	1900	1,440	5.13
Sep 7	0255	1,180	4.66

Minimum discharge, 0.78 ft³/s, Aug. 1-3.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	726	e1.8	84	4.9	4.7	11	9.2	3.4	2.2	1.4	0.92	4.5
2	8.0	e1.8	7.1	11	49	7.1	4.6	3.5	2.4	1.4	0.86	4.5
3	3.1	2.8	3.8	5.8	17	5.7	3.9	3.3	1.9	1.4	1.4	4.0
4	9.2	69	3.0	4.0	11	5.1	4.1	14	1.9	1.4	3.7	2.7
5	9.1	8.7	2.6	3.7	17	5.0	7.4	4.4	1.9	1.4	1.3	4.4
6	3.1	3.4	2.4	3.5	23	110	4.0	4.0	2.2	1.4	1.1	296
7	2.2	2.8	2.3	3.9	16	39	3.4	3.8	2.2	1.5	1.1	172
8	1.9	e2.5	e2.2	4.0	23	8.1	28	3.5	1.9	15	1.0	12
9	1.8	e2.4	e2.2	3.4	9.8	5.5	12	e3.3	8.1	4.1	101	7.3
10	1.8	e2.3	e2.2	3.1	6.8	247	5.5	e3.2	5.1	1.6	5.2	5.0
11	1.8	e2.2	2.2	e3.1	5.5	67	4.7	e3.0	5.1	1.4	1.5	4.9
12	2.5	e2.2	54	e3.1	5.1	10	19	e2.9	9.4	1.4	1.1	15
13	1.9	e2.1	16	e3.1	5.5	6.9	28	2.9	2.3	1.2	1.6	3.6
14	17	e2.1	5.7	e3.1	15	5.7	8.7	4.7	2.2	1.2	178	3.0
15	4.8	2.9	4.2	e3.1	12	4.8	5.2	40	2.2	1.1	39	3.1
16	2.1	4.1	3.8	e3.1	7.0	33	195	40	4.7	1.1	6.4	3.0
17	2.0	14	3.6	3.2	9.4	7.5	38	92	20	0.96	2.6	2.3
18	2.1	2.7	3.6	e22	11	5.7	8.5	9.5	2.5	0.98	16	2.2
19	6.8	2.2	3.7	23	7.7	4.6	6.1	5.7	1.9	1.1	287	2.1
20	2.0	1.9	3.5	12	6.8	4.0	5.7	75	1.8	1.4	12	2.4
21	1.6	1.9	3.4	e8.2	6.6	19	4.1	7.7	4.5	1.7	18	2.7
22	1.6	1.9	3.2	e5.1	8.6	6.8	4.5	2.8	21	0.95	6.6	2.5
23	1.6	1.9	3.5	e4.0	8.0	21	10	3.3	8.1	0.88	3.4	64
24	1.6	1.9	3.6	e3.8	8.2	17	9.9	2.6	2.9	0.88	2.8	14
25	1.6	2.4	3.5	3.7	96	7.1	6.2	2.3	1.9	15	18	4.8
26	1.9	3.1	3.5	6.4	12	5.4	4.7	e2.3	1.7	5.4	9.2	4.0
27	13	2.3	e3.5	9.0	8.3	4.6	9.4	e2.2	1.7	1.3	551	3.7
28	3.4	2.0	4.1	7.2	20	4.2	8.9	e2.2	12	1.1	485	7.6
29	2.2	1.8	4.0	5.9	---	4.0	5.0	e2.2	2.6	1.8	10	6.7
30	e1.9	1.8	3.9	5.2	---	3.7	3.8	e2.2	1.7	1.2	5.6	3.3
31	e1.9	---	4.1	4.9	---	4.3	---	2.2	---	0.89	5.2	---
Total	841.5	154.9	252.4	189.5	430.0	689.8	467.5	354.1	140.0	73.54	1,777.58	667.3
Mean	27.1	5.16	8.14	6.11	15.4	22.3	15.6	11.4	4.67	2.37	57.3	22.2
Max	726	69	84	23	96	247	195	92	21	15	551	296
Min	1.6	1.8	2.2	3.1	4.7	3.7	3.4	2.2	1.7	0.88	0.86	2.1
Cfsm	3.64	0.69	1.09	0.82	2.06	2.98	2.09	1.53	0.63	0.32	7.69	2.98
In.	4.20	0.77	1.26	0.94	2.14	3.44	2.33	1.77	0.70	0.37	8.86	3.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6.20	8.57	12.7	12.3	13.2	16.8	13.5	10.3	8.21	8.78	7.52	8.44
Max	27.1	27.7	52.2	37.9	34.1	46.4	49.1	31.6	44.9	69.5	62.8	58.3
(WY)	(2011)	(1973)	(2010)	(1979)	(1979)	(2000)	(2007)	(1947)	(2003)	(1989)	(1967)	(1971)
Min	0.62	1.35	1.03	1.18	1.80	2.24	2.55	1.76	1.09	0.65	0.32	0.78
(WY)	(1964)	(1966)	(1956)	(1981)	(2002)	(2006)	(1985)	(1955)	(1966)	(1957)	(1966)	(2007)

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	Calendar Year 2010	Water Year 2011	Water Years 1946 - 2011	
Annual total	4,906.02	6,038.12		
Annual mean	13.4	16.5	10.5	
Highest annual mean			19.6	2003
Lowest annual mean			3.93	2002
Highest daily mean	726 Oct 1	726 Oct 1	1,480	Sep 16, 1999
Lowest daily mean	0.51 Jul 7	0.86 Aug 2	0.09	Oct 2, 1968 ^a
Annual seven-day minimum	0.57 Jul 2	1.1 Jul 13	0.10	Aug 27, 1966
Maximum peak flow		5,760 Oct 1	b8,040	Jul 5, 1989
Maximum peak stage		10.37 Oct 1	13.76	Jul 5, 1989
Instantaneous low flow		0.78 Aug 1 ^c	0.09	Oct 2, 1968
Annual runoff (cfsm)	1.80	2.22	1.41	
Annual runoff (inches)	24.46	30.11	19.15	
10 percent exceeds	15	19	18	
50 percent exceeds	3.3	3.9	2.9	
90 percent exceeds	1.1	1.6	0.80	

^a Oct. 2, 4, 1968.^b From rating curve extended above 200 ft³/s on basis of culvert and flow-over-road measurements at gage heights 9.10 and 11.91 feet.^c Aug. 1-3.