

Water-Data Report 2013

**01591610 PATUXENT RIVER BELOW BRIGHTON DAM NEAR BRIGHTON, MD**

Upper Chesapeake Basin  
Patuxent Subbasin

LOCATION.--Lat 39°11'31.9", long 77°00'15.8" referenced to North American Datum of 1983, Montgomery County, MD, Hydrologic Unit 02060006, on right bank at Brighton Dam, 500 ft downstream from Triadelphia Reservoir, 1.3 mi east of Brighton, and 92 mi upstream from mouth.

DRAINAGE AREA.--78.6 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 302.98 ft above North American Vertical Datum of 1988. June 1978 to October 1980, nonrecording gage 300 ft upstream on left bank at different gage datum.

REMARKS.—No estimated daily discharges. Records good below 2,000 ft<sup>3</sup>/s and fair above. Flow completely regulated by Triadelphia Reservoir, 500 ft upstream, usable capacity, 6,200,000,000 gal; no dead storage. U.S. Geological Survey satellite data-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.--Flood of June 22, 1972, reached a discharge of 17,800 ft<sup>3</sup>/s. Data provided by Washington Suburban Sanitary Commission.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,730 ft<sup>3</sup>/s, Jan. 31, gage height, 11.88 ft; minimum discharge, 5.8 ft<sup>3</sup>/s, Apr. 4.

## 01591610 PATUXENT RIVER BELOW BRIGHTON DAM NEAR BRIGHTON, MD—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**  
**DAILY MEAN VALUES**

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>1</b>	69	40	65	64	555	226	89	58	77	141	75	91
<b>2</b>	70	47	66	64	537	144	78	58	77	141	75	91
<b>3</b>	70	72	66	64	466	74	90	58	77	141	75	90
<b>4</b>	66	72	58	64	333	74	88	58	76	141	75	90
<b>5</b>	74	72	66	64	205	74	78	58	75	140	75	89
<b>6</b>	73	72	66	64	98	74	58	58	76	140	75	84
<b>7</b>	72	72	66	64	97	74	59	58	99	140	75	82
<b>8</b>	71	72	66	64	96	61	58	121	75	105	75	83
<b>9</b>	70	73	66	64	94	65	58	211	76	77	76	83
<b>10</b>	70	73	66	64	93	66	58	203	364	77	75	82
<b>11</b>	70	73	66	64	93	107	90	204	739	77	76	80
<b>12</b>	70	73	87	65	93	164	154	203	610	76	75	80
<b>13</b>	69	71	67	65	129	239	155	103	286	96	75	80
<b>14</b>	69	69	66	65	271	302	154	58	147	121	75	79
<b>15</b>	69	69	67	84	194	299	154	58	149	80	75	79
<b>16</b>	69	69	67	175	89	216	153	57	150	78	75	79
<b>17</b>	69	68	67	176	89	161	153	57	150	78	75	79
<b>18</b>	69	69	67	175	89	161	154	57	150	78	75	79
<b>19</b>	69	68	80	174	88	161	154	57	150	78	75	79
<b>20</b>	69	68	65	175	51	161	154	57	151	78	75	79
<b>21</b>	69	69	65	174	52	160	154	99	100	78	75	79
<b>22</b>	70	68	65	174	78	131	95	146	61	78	75	79
<b>23</b>	70	68	64	172	78	89	61	234	61	78	74	78
<b>24</b>	70	68	64	121	75	88	59	520	48	109	73	78
<b>25</b>	70	67	64	76	76	90	60	301	22	122	73	78
<b>26</b>	67	67	126	77	76	88	60	298	37	125	72	56
<b>27</b>	67	67	464	78	164	89	60	293	116	109	73	20
<b>28</b>	68	67	559	79	230	90	60	140	141	78	72	20
<b>29</b>	116	65	406	79	---	88	60	77	141	76	81	20
<b>30</b>	252	66	199	80	---	89	59	77	141	76	91	26
<b>31</b>	145	---	64	2,290	---	90	---	77	---	75	91	---
<b>Total</b>	2,461	2,034	3,490	5,258	4,589	3,995	2,917	4,114	4,622	3,087	2,352	2,192
<b>Mean</b>	79.4	67.8	113	170	164	129	97.2	133	154	99.6	75.9	73.1
<b>Max</b>	252	73	559	2,290	555	302	155	520	739	141	91	91
<b>Min</b>	66	40	58	64	51	61	58	57	22	75	72	20
<b>Cfsm</b>	1.01	0.86	1.43	2.16	2.09	1.64	1.24	1.69	1.96	1.27	0.97	0.93
<b>In.</b>	1.16	0.96	1.65	2.49	2.17	1.89	1.38	1.95	2.19	1.46	1.11	1.04

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2013, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	64.9	67.2	91.5	80.1	91.8	119	117	90.3	84.9	68.9	62.8	74.3
<b>Max</b>	161	186	373	183	256	320	304	229	313	156	143	261
<b>(WY)</b>	(2004)	(2004)	(1984)	(1991)	(1994)	(1993)	(1993)	(1989)	(2003)	(2006)	(1996)	(2003)
<b>Min</b>	7.87	12.1	12.4	9.33	9.57	8.90	8.49	8.63	22.4	30.3	18.1	17.8
<b>(WY)</b>	(1987)	(2008)	(2008)	(1982)	(1999)	(1981)	(1981)	(1981)	(1981)	(1995)	(1987)	(2002)

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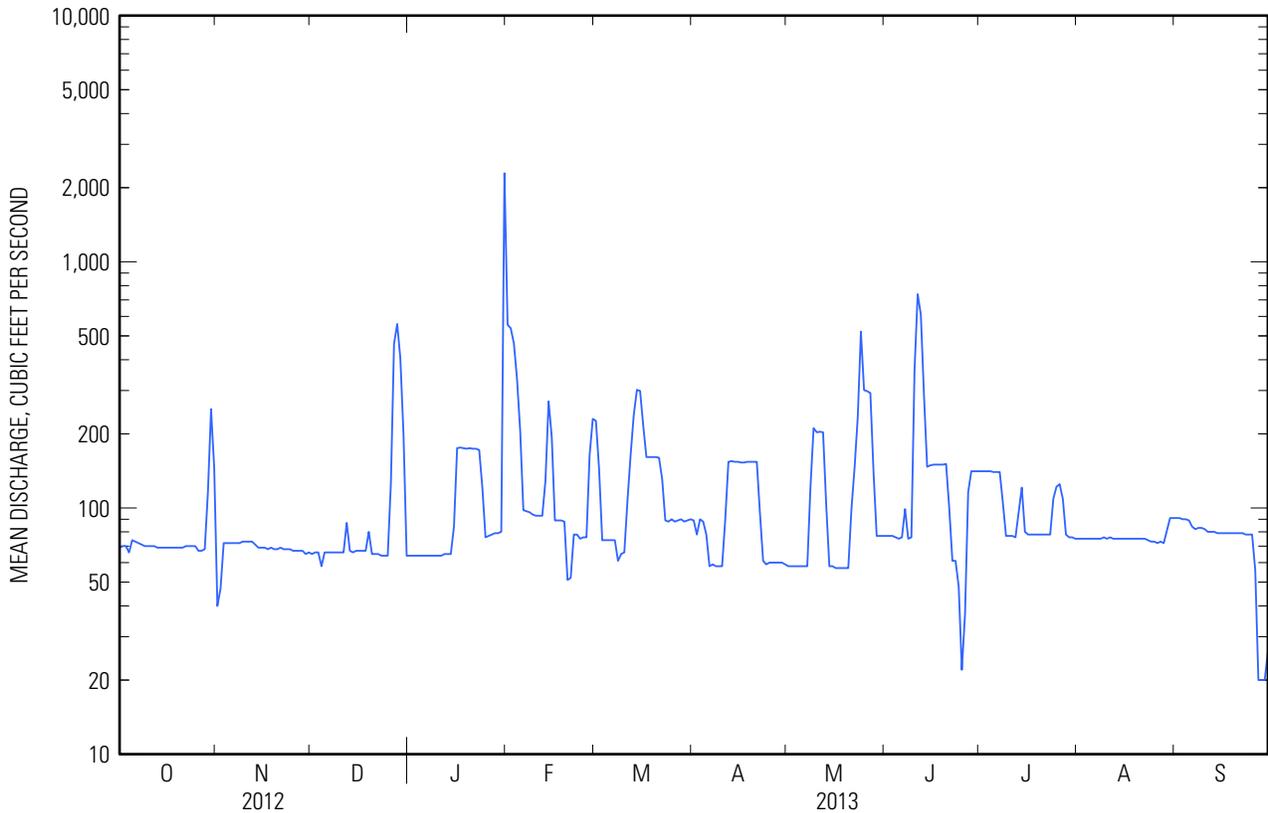
SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1981 - 2013	
<b>Annual total</b>	31,306		41,111			
<b>Annual mean</b>	85.5		113		84.3	
<b>Highest annual mean</b>					134	1984
<b>Lowest annual mean</b>					38.2	2002
<b>Highest daily mean</b>	559	Dec 28	2,290	Jan 31	2,290	Jan 31, 2013
<b>Lowest daily mean</b>	40	Nov 1	20	Sep 27 <sup>a</sup>	2.1	Jan 27, 1983 <sup>b</sup>
<b>Annual seven-day minimum</b>	59	Mar 29	43	Sep 24	4.0	Oct 16, 1980
<b>Maximum peak flow</b>			<sup>c</sup> 5,730 Jan 31		<sup>c</sup> 5,730 Jan 31, 2013	
<b>Maximum peak stage</b>			11.88	Jan 31	11.88	Jan 31, 2013
<b>Instantaneous low flow</b>			5.8	Apr 4	0.88	Feb 29, 2012
<b>Annual runoff (cfsm)</b>	1.09		1.43		1.07	
<b>Annual runoff (inches)</b>	14.82		19.46		14.57	
<b>10 percent exceeds</b>	116		174		167	
<b>50 percent exceeds</b>	73		76		56	
<b>90 percent exceeds</b>	66		60		12	

<sup>a</sup> Sep. 27-29.

<sup>b</sup> Jan. 27, 28, 1983.

<sup>c</sup> From rating curve extended above 2,900 ft<sup>3</sup>/s.



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**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--November 1980 to September 1989. April 2013 to September 2013.

PERIOD OF DAILY RECORD.--April 2013 to September 2013.

INSTRUMENTATION.--Water-temperature sensor April 2013 to September 2013.

REMARKS.—Records rated excellent for entire 2013 water year. Missing record due to instrument malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 27.9°C, July 24, 2011; minimum, 7.2°C, April 5, 2013.

EXTREMES FOR THE PERIOD APRIL 2013 TO SEPTEMBER 2013.--

WATER TEMPERATURE: Maximum, 27.9°C, July 24; minimum, 7.2°C, Apr. 5.

**TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

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**TEMPERATURE, WATER, DEGREES CELSIUS**  
**WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	---	---	---	---	---	---	15.7	14.4	14.8
2	---	---	---	---	---	---	---	---	---	16.0	14.5	15.0
3	---	---	---	---	---	---	---	---	---	15.9	14.6	15.2
4	---	---	---	---	---	---	---	---	---	16.5	14.8	15.4
5	---	---	---	---	---	---	9.0	7.2	7.9	16.4	15.1	15.6
6	---	---	---	---	---	---	9.3	7.6	8.2	15.9	15.3	15.7
7	---	---	---	---	---	---	8.9	7.5	8.0	15.8	15.2	15.6
8	---	---	---	---	---	---	9.5	7.8	8.5	16.6	15.1	15.7
9	---	---	---	---	---	---	10.6	8.1	9.2	17.3	16.0	16.7
10	---	---	---	---	---	---	10.8	8.8	9.5	17.3	16.1	16.7
11	---	---	---	---	---	---	10.6	8.6	9.5	17.9	16.4	17.1
12	---	---	---	---	---	---	9.9	8.4	9.3	19.7	17.0	18.4
13	---	---	---	---	---	---	10.5	9.3	9.9	18.5	17.1	17.8
14	---	---	---	---	---	---	10.7	9.3	9.9	18.5	16.3	17.2
15	---	---	---	---	---	---	10.0	9.3	9.6	17.6	16.6	16.9
16	---	---	---	---	---	---	10.1	9.1	9.6	18.7	16.7	17.7
17	---	---	---	---	---	---	11.0	9.8	10.5	19.3	17.3	17.9
18	---	---	---	---	---	---	10.5	9.9	10.1	17.4	16.8	17.1
19	---	---	---	---	---	---	11.0	9.7	10.2	17.9	16.9	17.5
20	---	---	---	---	---	---	11.9	10.5	11.2	18.2	17.5	17.8
21	---	---	---	---	---	---	11.4	10.2	10.7	19.0	17.1	17.8
22	---	---	---	---	---	---	11.7	10.1	10.7	---	---	---
23	---	---	---	---	---	---	14.6	10.5	12.9	19.0	17.1	17.9
24	---	---	---	---	---	---	14.8	12.9	13.8	20.9	18.4	19.5
25	---	---	---	---	---	---	15.9	14.1	14.9	19.5	17.9	18.8
26	---	---	---	---	---	---	16.4	14.2	15.2	18.9	17.6	18.2
27	---	---	---	---	---	---	16.1	14.3	14.9	17.7	17.4	17.6
28	---	---	---	---	---	---	15.3	13.8	14.3	18.3	17.1	17.7
29	---	---	---	---	---	---	14.4	13.9	14.2	19.2	17.5	18.2
30	---	---	---	---	---	---	14.8	13.9	14.4	19.8	18.2	18.7
31	---	---	---	---	---	---	---	---	---	20.1	18.2	19.0
Month	---	---	---	---	---	---	---	---	---	---	---	---

## 01591610 PATUXENT RIVER BELOW BRIGHTON DAM NEAR BRIGHTON, MD—Continued

**TEMPERATURE, WATER, DEGREES CELSIUS**  
**WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
<b>1</b>	20.6	18.8	19.5	17.8	17.3	17.6	20.1	18.9	19.3	21.8	20.8	21.2
<b>2</b>	20.2	18.9	19.5	18.0	17.4	17.6	20.2	18.8	19.4	21.8	20.9	21.2
<b>3</b>	21.9	19.6	20.7	18.2	17.6	17.9	19.7	18.8	19.3	22.5	21.0	21.5
<b>4</b>	22.6	20.3	21.3	18.4	17.6	18.0	20.6	18.6	19.7	22.0	21.1	21.4
<b>5</b>	21.3	19.8	20.3	18.7	17.8	18.2	20.6	18.6	19.7	22.6	21.0	21.6
<b>6</b>	20.7	19.5	20.0	18.9	18.0	18.3	19.9	19.3	19.6	22.1	21.1	21.5
<b>7</b>	21.6	19.5	20.3	19.5	18.0	18.5	20.4	19.5	19.8	21.9	21.1	21.4
<b>8</b>	22.1	20.3	21.1	19.0	17.3	18.1	20.4	19.6	20.0	22.3	21.2	21.6
<b>9</b>	21.0	20.2	20.4	18.0	17.4	17.8	20.5	19.6	20.0	21.9	21.3	21.5
<b>10</b>	20.8	18.9	20.0	18.6	17.6	17.9	20.6	19.6	19.9	22.3	21.4	21.7
<b>11</b>	21.8	19.7	20.8	19.1	17.6	18.1	20.7	19.7	20.1	22.2	21.5	21.8
<b>12</b>	22.1	20.0	20.8	18.4	17.7	18.0	21.0	19.8	20.2	22.2	21.4	21.7
<b>13</b>	21.9	20.1	20.8	20.1	17.8	18.9	21.1	19.7	20.2	22.5	21.5	22.0
<b>14</b>	22.4	20.4	21.7	20.4	19.7	20.0	21.4	19.2	20.3	22.3	21.3	21.7
<b>15</b>	20.7	16.8	18.8	21.1	19.5	20.1	21.1	19.3	20.3	22.1	21.2	21.5
<b>16</b>	17.6	16.8	17.2	21.1	19.8	20.2	21.1	19.9	20.3	22.0	21.1	21.5
<b>17</b>	17.9	17.0	17.3	21.0	19.9	20.2	21.0	20.0	20.4	21.8	20.9	21.2
<b>18</b>	17.6	16.9	17.2	21.2	19.9	20.4	20.9	20.2	20.5	21.6	20.8	21.0
<b>19</b>	17.7	17.1	17.4	21.3	20.1	20.5	20.8	20.2	20.4	21.5	20.6	20.9
<b>20</b>	17.4	17.0	17.2	21.5	20.2	20.7	21.4	20.3	20.6	21.4	20.6	20.9
<b>21</b>	18.1	16.9	17.3	21.8	20.0	20.8	21.3	20.3	20.6	21.0	20.6	20.8
<b>22</b>	18.0	16.8	17.3	21.3	20.3	20.7	21.9	20.2	20.9	21.3	20.5	20.8
<b>23</b>	17.9	17.0	17.4	21.9	20.4	21.0	20.7	20.0	20.4	21.3	20.4	20.7
<b>24</b>	18.3	13.2	16.7	27.9	18.9	22.2	21.4	20.0	20.5	21.2	20.1	20.5
<b>25</b>	15.3	13.0	13.9	20.4	18.9	19.6	21.3	20.1	20.5	21.1	20.1	20.4
<b>26</b>	16.4	13.2	14.5	20.4	19.5	19.8	21.5	20.2	20.7	20.9	18.9	20.1
<b>27</b>	17.7	15.8	16.8	19.9	18.9	19.7	21.4	19.9	20.6	20.1	18.9	19.4
<b>28</b>	17.7	16.7	17.1	19.9	18.4	19.0	21.1	20.2	20.5	20.1	18.8	19.3
<b>29</b>	18.1	16.8	17.3	20.0	18.3	18.9	21.3	20.3	20.7	20.4	18.6	19.2
<b>30</b>	17.9	17.1	17.4	20.0	18.4	19.1	21.4	20.7	20.9	20.6	18.5	19.3
<b>31</b>	---	---	---	19.7	18.6	19.2	21.6	20.8	21.1	---	---	---
<b>Month</b>	22.6	13.0	18.6	27.9	17.3	19.3	21.9	18.6	20.2	22.6	18.5	21.0

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