

Water-Data Report 2011

**01484080 MURDERKILL RIVER AT FREDERICA, DE**

Lower Delaware Basin  
Broadkill-Smyrna Subbasin

LOCATION.--Lat 39°00'40", long 75°27'34" referenced to North American Datum of 1927, Kent County, DE, Hydrologic Unit 02040207, on right bank, 300 feet downstream of Route 1 bridge, 0.2 mi downstream of confluence of Spring Creek, 0.5 east of Frederica, and 7.4 mi upstream from mouth.

DRAINAGE AREA.--82.8 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--April 1997 to September 1999 (stage only); September 2002, (located at upstream side of State Route 1 highway bridge), (stage only); June 2007 to December 2008; June 2010 to current year.

GAGE.--Water-stage recorder and velocity meter. Datum of gage is 0.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Gage-height and discharge records good. Missing data due to equipment malfunction. This is a tidal discharge station. Discharge is computed from relations between stage vs. area and index velocity vs. mean channel velocity. Daily mean discharges were computed using the Godin low-pass filter to remove tidal effects from unit values. U.S. Geological Survey satellite collection platform at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded elevation, 5.17 ft, August 28, 2011; minimum recorded elevation, -4.27 ft, March 4, 1999.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,800 ft<sup>3</sup>/s, August 28, 2011; minimum discharge, -4,380 ft<sup>3</sup>/s, August 27, 2011.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 5.17 ft, Aug. 28; minimum elevation, -2.88 ft, Jan. 12.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,800 ft<sup>3</sup>/s, Aug. 28 ft, gage height, 1.43 ft; minimum discharge, -4,380 ft<sup>3</sup>/s, Aug. 27.

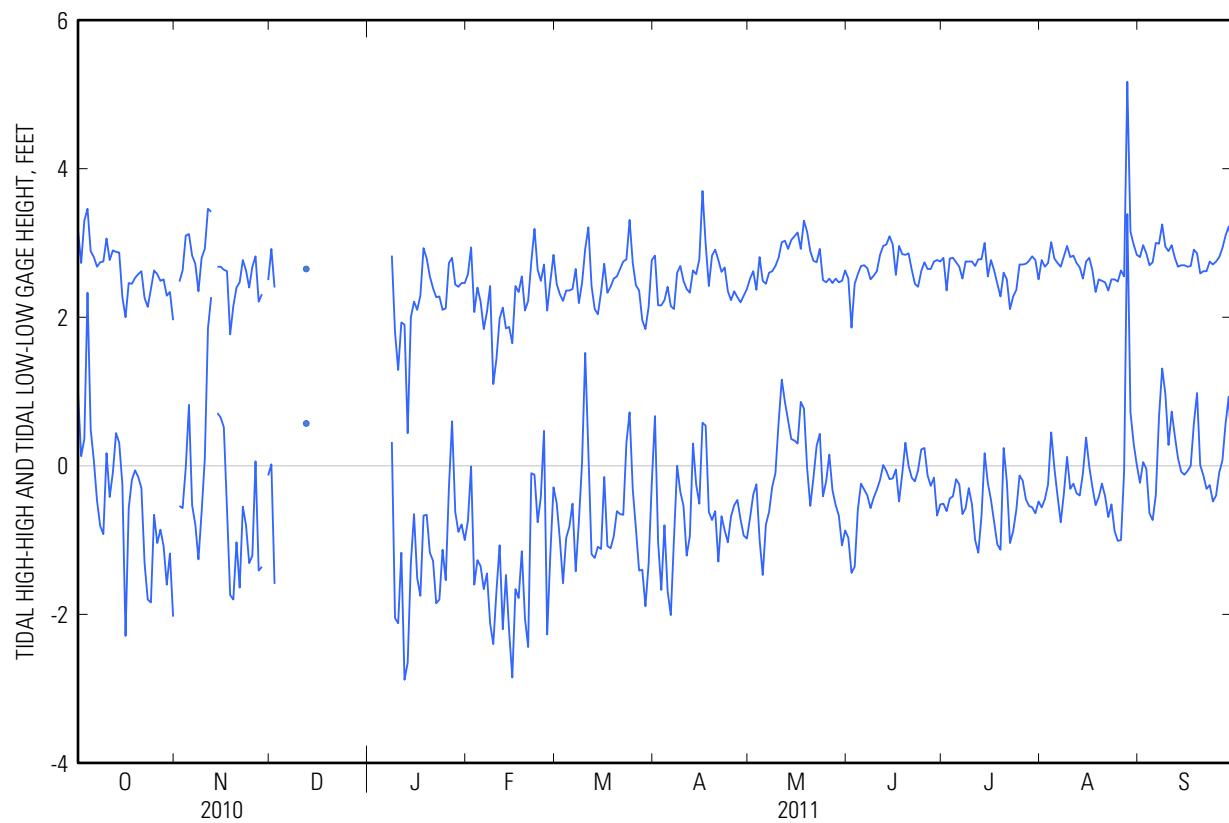
**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**
**GAGE HEIGHT, FEET**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Day	High-high	Low-low	High-high	Low-low	High-high	Low-low	High-high	Low-low	High-high	Low-low	High-high	Low-low
	<b>October</b>		<b>November</b>		<b>December</b>		<b>January</b>		<b>February</b>		<b>March</b>	
<b>1</b>	3.17	0.99	---	---	2.92	0.02	---	---	2.58	-0.74	2.45	-0.50
<b>2</b>	2.73	0.13	2.48	-0.54	2.40	-1.59	---	---	2.94	-0.01	2.31	-0.99
<b>3</b>	3.30	0.36	2.63	-0.57	---	---	---	---	2.07	-1.60	2.22	-1.58
<b>4</b>	3.46	2.33	3.10	-0.02	---	---	---	---	2.40	-1.27	2.36	-0.97
<b>5</b>	2.89	0.49	3.12	0.82	---	---	---	---	2.21	-1.35	2.36	-0.82
<b>6</b>	2.81	0.07	2.83	-0.53	---	---	---	---	1.84	-1.66	2.38	-0.51
<b>7</b>	2.68	-0.47	2.72	-0.79	---	---	---	---	2.07	-1.45	2.65	-1.42
<b>8</b>	2.74	-0.81	2.35	-1.26	---	---	2.83	0.32	2.42	-2.12	2.19	-0.75
<b>9</b>	2.75	-0.92	2.80	-0.62	---	---	1.80	-2.05	1.10	-2.40	2.46	0.04
<b>10</b>	3.06	0.17	2.92	0.09	---	---	1.29	-2.12	1.44	-1.69	2.92	1.52
<b>11</b>	2.77	-0.42	3.46	1.85	---	---	1.93	-1.17	1.98	-1.07	3.21	0.18
<b>12</b>	2.90	-0.09	3.42	2.27	2.65	0.57	1.90	-2.88	2.13	-2.20	2.42	-1.19
<b>13</b>	2.88	0.44	---	---	---	---	0.44	-2.65	1.85	-1.47	2.11	-1.24
<b>14</b>	2.87	0.31	2.68	0.71	---	---	2.00	-1.31	1.87	-2.23	2.04	-1.09
<b>15</b>	2.27	-0.25	2.68	0.65	---	---	2.21	-0.65	1.65	-2.85	2.34	-1.12
<b>16</b>	2.00	-2.29	2.64	0.52	---	---	2.10	-1.51	2.42	-1.66	2.72	-0.15
<b>17</b>	2.46	-0.57	2.62	-0.58	---	---	2.29	-1.75	2.34	-1.78	2.33	-1.08
<b>18</b>	2.45	-0.19	1.77	-1.74	---	---	2.93	-0.67	2.55	-1.15	2.41	-1.11
<b>19</b>	2.53	-0.06	2.15	-1.80	---	---	2.79	-0.66	2.09	-2.06	2.52	-0.95
<b>20</b>	2.58	-0.15	2.40	-1.03	---	---	2.55	-1.17	2.22	-2.44	2.55	-0.61
<b>21</b>	2.62	-0.30	2.47	-1.64	---	---	2.39	-1.28	2.75	-0.10	2.65	-0.65
<b>22</b>	2.26	-1.31	2.77	-0.55	---	---	2.27	-1.85	3.19	-0.12	2.75	-0.66
<b>23</b>	2.14	-1.80	2.63	-0.80	---	---	2.28	-1.80	2.64	-0.76	2.78	0.31
<b>24</b>	2.38	-1.84	2.40	-1.31	---	---	2.10	-1.13	2.49	-0.42	3.31	0.72
<b>25</b>	2.63	-0.66	2.68	-1.21	---	---	2.12	-1.54	2.71	0.47	2.73	-0.32
<b>26</b>	2.58	-1.04	2.82	0.06	---	---	2.73	-0.30	2.09	-2.27	2.43	-0.85
<b>27</b>	2.49	-0.86	2.21	-1.41	---	---	2.80	0.60	2.48	-1.19	2.36	-1.41
<b>28</b>	2.51	-1.08	2.31	-1.36	---	---	2.44	-0.62	2.84	-0.29	1.96	-1.40
<b>29</b>	2.29	-1.60	---	---	---	---	2.41	-0.89	---	---	1.84	-1.89
<b>30</b>	2.34	-1.18	2.50	-0.13	---	---	2.46	-0.79	---	---	2.14	-1.32
<b>31</b>	1.96	-2.03	---	---	---	---	2.46	-1.00	---	---	2.77	-0.23
<b>Max</b>	3.46	2.33	---	---	---	---	---	---	3.19	0.47	3.31	1.52
<b>Min</b>	1.96	-2.29	---	---	---	---	---	---	1.10	-2.85	1.84	-1.89

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**
**GAGE HEIGHT, FEET**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Day	High-high	Low-low										
	April		May		June		July		August		September	
1	2.83	0.67	2.52	-0.70	2.52	-0.97	2.80	-0.51	2.77	-0.56	2.81	-0.23
2	2.16	-1.03	2.62	-0.39	1.86	-1.44	2.36	-0.61	2.68	-0.45	2.97	0.05
3	2.16	-1.67	2.37	-0.25	2.45	-1.36	2.79	-0.44	2.73	-0.25	2.86	-0.04
4	2.23	-0.80	2.81	-0.99	2.58	-0.59	2.80	-0.41	3.01	0.45	2.70	-0.64
5	2.41	-1.69	2.49	-1.47	2.69	-0.24	2.74	-0.18	2.79	-0.03	2.74	-0.73
6	2.15	-2.01	2.45	-0.79	2.70	-0.32	2.68	-0.25	2.73	-0.41	3.00	-0.39
7	2.11	-0.98	2.60	-0.62	2.66	-0.40	2.52	-0.65	2.68	-0.76	2.99	0.66
8	2.60	0.00	2.62	-0.28	2.51	-0.57	2.75	-0.57	2.82	-0.37	3.25	1.31
9	2.69	-0.35	2.69	-0.10	2.56	-0.43	2.75	-0.30	2.96	0.12	2.95	0.97
10	2.49	-0.54	2.80	0.58	2.62	-0.32	2.75	-0.52	2.81	-0.31	2.89	0.28
11	2.38	-1.21	3.01	1.16	2.84	-0.19	2.69	-1.00	2.83	-0.24	2.97	0.73
12	2.33	-0.95	3.03	0.86	2.96	0.01	2.78	-1.17	2.73	-0.37	2.80	0.40
13	2.63	0.30	2.92	0.61	2.98	-0.07	2.78	-0.68	2.67	-0.40	2.68	0.10
14	2.58	-0.25	3.04	0.36	3.09	-0.18	3.00	0.17	2.52	-0.10	2.70	-0.08
15	2.78	-0.51	3.09	0.34	2.98	-0.17	2.55	-0.23	2.75	0.38	2.70	-0.12
16	3.70	0.58	3.14	0.30	2.57	-0.05	2.77	-0.46	2.80	-0.01	2.68	-0.07
17	2.98	0.54	2.92	0.86	2.96	-0.48	2.63	-0.76	2.63	-0.29	2.69	0.00
18	2.42	-0.62	3.30	0.77	2.85	-0.11	2.45	-1.06	2.34	-0.53	2.91	0.57
19	2.83	-0.73	3.15	-0.03	2.84	0.31	2.28	-1.13	2.51	-0.42	2.86	0.98
20	2.91	-0.61	2.89	-0.54	2.86	0.00	2.60	0.24	2.49	-0.24	2.59	0.01
21	2.77	-1.29	2.76	-0.16	2.64	-0.16	2.51	-0.21	2.47	-0.41	2.62	-0.13
22	2.61	-0.68	2.74	0.27	2.45	-0.21	2.11	-1.04	2.36	-0.69	2.62	-0.31
23	2.67	-0.87	2.92	0.43	2.41	-0.06	2.28	-0.88	2.51	-0.52	2.75	-0.26
24	2.35	-1.03	2.50	-0.41	2.62	0.22	2.37	-0.59	2.51	-0.88	2.71	-0.48
25	2.23	-0.68	2.47	-0.21	2.74	0.24	2.71	-0.13	2.48	-1.01	2.75	-0.40
26	2.35	-0.53	2.52	0.15	2.65	-0.13	2.71	-0.20	2.63	-1.00	2.81	-0.09
27	2.27	-0.46	2.46	-0.33	2.65	-0.27	2.72	-0.45	2.55	-0.07	2.93	0.07
28	2.20	-0.72	2.52	-0.53	2.75	-0.16	2.76	-0.54	5.17	3.39	3.10	0.57
29	2.29	-0.94	2.47	-0.67	2.77	-0.67	2.82	-0.56	3.15	0.72	3.22	0.93
30	2.38	-0.98	2.49	-1.07	2.75	-0.52	2.77	-0.64	2.98	0.30	2.99	0.06
31	---	---	2.63	-0.87	---	---	2.51	-0.48	2.84	0.01	---	---
<b>Max</b>	3.70	0.67	3.30	1.16	3.09	0.31	3.00	0.24	5.17	3.39	3.25	1.31
<b>Min</b>	2.11	-2.01	2.37	-1.47	1.86	-1.44	2.11	-1.17	2.34	-1.01	2.59	-0.73

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**

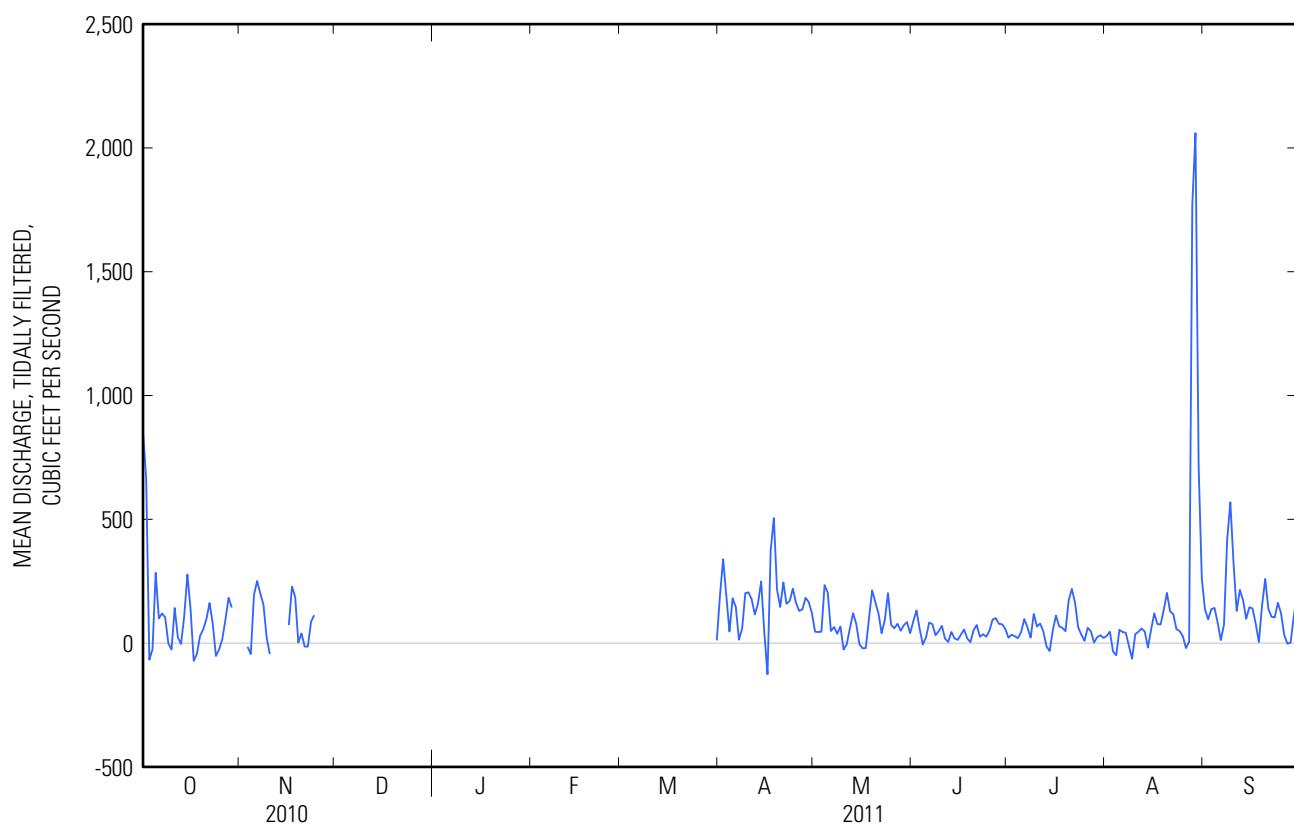


**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**

**DISCHARGE, TIDALLY FILTERED, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**  
**DAILY MEAN VALUES**

<b>Day</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>
<b>1</b>	854	---	---	---	---	---	192	46	89	22	29	136
<b>2</b>	666	---	---	---	---	---	339	45	132	34	46	96
<b>3</b>	-67	-15	---	---	---	---	192	46	57	28	-34	137
<b>4</b>	-25	-44	---	---	---	---	47	234	-5.4	20	-49	142
<b>5</b>	284	194	---	---	---	---	181	204	23	45	54	83
<b>6</b>	100	251	---	---	---	---	146	49	83	97	45	12
<b>7</b>	120	201	---	---	---	---	14	65	77	64	42	75
<b>8</b>	104	155	---	---	---	---	59	38	32	22	-11	418
<b>9</b>	-1.4	23	---	---	---	---	202	67	48	118	-63	569
<b>10</b>	-26	-44	---	---	---	---	205	-26	70	67	36	325
<b>11</b>	142	---	---	---	---	---	177	-4.7	18	79	46	130
<b>12</b>	23	---	---	---	---	---	116	61	4.9	48	59	215
<b>13</b>	-3.4	---	---	---	---	---	160	121	45	-13	47	174
<b>14</b>	108	---	---	---	---	---	249	77	19	-32	-18	98
<b>15</b>	277	---	---	---	---	---	41	-4.7	13	52	54	145
<b>16</b>	137	73	---	---	---	---	-126	-21	34	111	120	140
<b>17</b>	-71	228	---	---	---	---	374	-20	55	68	77	79
<b>18</b>	-44	187	---	---	---	---	505	99	19	62	75	4.5
<b>19</b>	29	2.6	---	---	---	---	217	213	3.9	48	135	152
<b>20</b>	56	39	---	---	---	---	146	166	52	172	203	259
<b>21</b>	97	-14	---	---	---	---	245	120	73	219	128	138
<b>22</b>	162	-14	---	---	---	---	159	40	26	164	117	106
<b>23</b>	79	86	---	---	---	---	170	93	36	64	56	104
<b>24</b>	-52	113	---	---	---	---	220	202	26	34	49	163
<b>25</b>	-26	---	---	---	---	---	162	74	50	9.5	28	120
<b>26</b>	15	---	---	---	---	---	130	60	95	62	-20	33
<b>27</b>	94	---	---	---	---	---	136	78	101	48	5.5	-2.7
<b>28</b>	183	---	---	---	---	---	183	50	78	2.5	1,770	2.0
<b>29</b>	144	---	---	---	---	---	166	72	76	24	2,060	107
<b>30</b>	---	---	---	---	---	---	122	85	58	32	711	193
<b>31</b>	---	---	---	---	---	11	---	40	---	21	259	---
<b>Mean</b>	---	---	---	---	---	---	171	76.4	49.6	57.8	195	145
<b>Max</b>	---	---	---	---	---	---	505	234	132	219	2,060	569
<b>Min</b>	---	---	---	---	---	---	-126	-26	-5.4	-32	-63	-2.7

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**



**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**

**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--June 2007 to December 2008, June 2010 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 2007 to December 2008, June 2010 to current year.

WATER TEMPERATURE: June 2007 to December 2008, June 2010 to current year.

pH: June 2007 to December 2008, July 2010 to current year.

DISSOLVED OXYGEN: June 2007 to December 2008, June 2010 to current year.

INSTRUMENTATION.--Multi-parameter water-quality monitor, June 2007 to December 2008. June 2010 to current year.

REMARKS.--Missing data due to occasional instrument malfunction.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 44,200 microsiemens/cm, July 30, 2008; minimum, 133 microsiemens/cm, August 29, 2011.

WATER TEMPERATURE: Maximum, 32.2 °C, July 24, 2011; minimum, -0.8 °C, January 26, 2011.

pH: Maximum, 9.1 standard units, April 16, 2008; minimum, 6.2 standard units, August 29 2011.

DISSOLVED OXYGEN: Maximum, 14.9 mg/L, July 12, 2011; minimum, 0.9 mg/L, July 7, 2010.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 38,900 microsiemens/cm, Aug. 9; minimum, 133 microsiemens/cm, Aug. 29.

WATER TEMPERATURE: Maximum, 32.2 °C, July 24; minimum, -0.8 °C, Jan. 26.

pH: Maximum, 8.2 standard units, Feb. 28; minimum, 6.2 standard units, Aug. 29.

DISSOLVED OXYGEN: Maximum, 14.9 mg/L, July 12; minimum, 1.0 mg/L, July 24-27, Aug. 3, 4.

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**
**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	
<b>October</b>				<b>November</b>				<b>December</b>				<b>January</b>	
<b>1</b>	15,500	350	4,050	6,720	675	2,510	31,800	699	9,850	---	---	---	
<b>2</b>	1,240	270	578	7,090	1,320	3,680	12,300	419	3,690	---	---	---	
<b>3</b>	22,800	330	4,840	9,440	1,460	4,620	23,200	499	5,940	---	---	---	
<b>4</b>	20,200	4,010	11,100	18,300	1,940	9,810	21,900	779	7,730	---	---	---	
<b>5</b>	8,210	590	3,630	16,500	3,120	9,560	21,700	539	7,160	7,350	430	2,260	
<b>6</b>	7,740	540	2,890	11,300	1,200	4,780	11,300	409	2,740	27,800	960	8,330	
<b>7</b>	9,010	420	3,000	10,300	1,000	3,990	3,710	359	1,110	28,900	910	10,500	
<b>8</b>	19,200	421	4,310	5,660	896	2,420	8,060	379	2,080	27,400	1,470	12,100	
<b>9</b>	24,300	462	5,880	12,300	964	4,760	10,400	509	2,550	7,610	370	1,880	
<b>10</b>	34,400	1,070	13,000	14,900	2,260	8,200	17,300	529	4,450	2,060	380	918	
<b>11</b>	22,900	779	9,520	23,100	8,560	16,300	15,700	629	4,980	9,630	460	2,020	
<b>12</b>	29,600	974	11,000	23,300	16,000	20,200	21,000	938	8,060	7,730	320	1,650	
<b>13</b>	26,400	1,800	12,500	19,200	8,090	14,000	15,100	628	5,010	850	320	528	
<b>14</b>	20,600	1,490	10,400	11,700	4,710	8,410	---	---	---	7,720	380	1,700	
<b>15</b>	6,090	953	3,250	9,320	4,150	6,890	---	---	---	12,300	420	2,480	
<b>16</b>	2,980	544	1,190	7,680	2,910	5,420	---	---	---	8,730	390	1,800	
<b>17</b>	8,400	966	2,910	6,910	1,750	3,870	---	---	---	13,900	380	3,340	
<b>18</b>	8,350	1,470	4,070	2,110	853	1,370	---	---	---	35,000	510	9,790	
<b>19</b>	9,290	1,520	4,590	5,070	610	1,730	---	---	---	29,800	430	6,560	
<b>20</b>	9,520	1,490	4,710	12,800	580	2,920	---	---	---	15,500	340	3,810	
<b>21</b>	10,100	1,440	4,660	14,400	470	3,760	---	---	---	12,000	340	3,400	
<b>22</b>	5,250	919	2,390	27,400	720	7,350	---	---	---	8,160	310	2,040	
<b>23</b>	3,900	733	1,660	19,700	630	5,900	---	---	---	8,840	340	2,280	
<b>24</b>	6,610	629	2,320	13,600	500	3,970	---	---	---	6,240	410	2,240	
<b>25</b>	13,800	1,210	4,970	27,900	530	6,040	---	---	---	6,250	360	1,830	
<b>26</b>	12,500	1,120	4,790	26,900	1,180	10,400	---	---	---	24,100	440	5,810	
<b>27</b>	9,980	1,140	4,360	12,100	510	4,340	---	---	---	17,000	350	4,310	
<b>28</b>	6,790	668	2,390	12,100	500	3,280	---	---	---	5,670	290	1,250	
<b>29</b>	3,940	500	1,400	12,100	699	4,190	---	---	---	3,790	280	1,020	
<b>30</b>	4,650	587	1,610	16,500	669	6,780	---	---	---	5,470	290	1,150	
<b>31</b>	2,070	535	1,040	---	---	---	---	---	---	6,640	280	1,300	
<b>Month</b>	34,400	270	4,810	27,900	470	6,380	31,800	359	5,030	35,000	280	3,570	

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**
**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

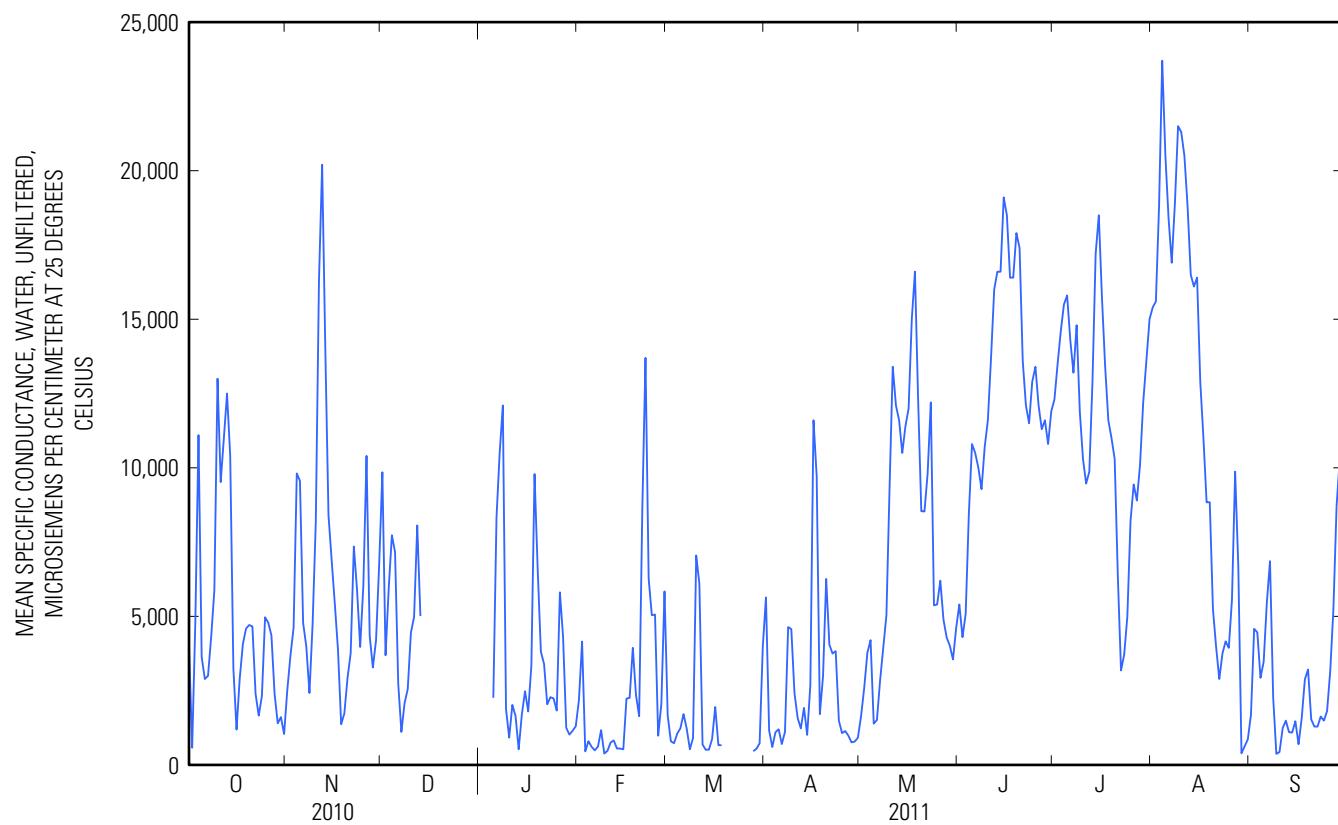
<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>
<b>February</b>				<b>March</b>				<b>April</b>				<b>May</b>
<b>1</b>	11,100	310	2,180	8,110	300	1,670	16,100	517	5,640	11,400	293	1,640
<b>2</b>	25,200	360	4,150	3,300	260	797	6,000	258	1,160	15,500	310	2,600
<b>3</b>	1,070	240	457	2,220	260	730	2,350	248	604	19,800	351	3,780
<b>4</b>	3,580	260	798	3,960	290	1,050	5,110	298	1,100	26,700	291	4,200
<b>5</b>	1,400	280	610	4,560	310	1,230	7,020	258	1,200	8,240	282	1,390
<b>6</b>	919	290	492	6,120	329	1,710	2,500	278	703	6,420	303	1,510
<b>7</b>	1,530	290	617	8,040	230	1,220	3,620	350	1,110	16,500	324	2,840
<b>8</b>	5,300	280	1,170	1,170	260	526	21,800	420	4,640	16,200	365	3,940
<b>9</b>	580	270	383	2,400	299	909	19,300	350	4,570	17,700	407	5,040
<b>10</b>	809	300	474	21,200	718	7,050	10,800	351	2,410	21,200	742	9,370
<b>11</b>	1,940	330	755	22,500	269	6,090	6,900	361	1,580	25,000	2,420	13,400
<b>12</b>	3,770	290	823	2,740	249	686	4,000	361	1,230	25,200	2,010	12,100
<b>13</b>	1,200	300	550	1,170	269	510	8,880	371	1,920	20,600	1,790	11,600
<b>14</b>	1,400	290	551	1,110	279	513	3,930	291	1,010	30,900	1,220	10,500
<b>15</b>	919	280	526	2,570	279	867	19,100	301	2,680	32,800	1,150	11,400
<b>16</b>	10,100	320	2,230	12,200	299	1,950	34,100	392	11,600	33,400	1,270	12,000
<b>17</b>	7,370	360	2,260	1,910	249	666	35,100	623	9,720	33,600	2,830	15,000
<b>18</b>	13,100	440	3,940	2,260	249	662	11,400	302	1,710	34,400	2,880	16,600
<b>19</b>	9,910	360	2,350	---	---	---	25,400	282	2,980	33,000	1,120	12,300
<b>20</b>	6,350	330	1,640	---	---	---	33,400	312	6,260	26,500	697	8,540
<b>21</b>	18,900	1,170	8,630	---	---	---	27,100	292	4,050	25,000	865	8,530
<b>22</b>	26,300	1,430	13,700	---	---	---	18,100	342	3,750	21,300	1,490	9,810
<b>23</b>	15,500	679	6,270	---	---	---	18,000	322	3,830	26,900	1,360	12,200
<b>24</b>	11,200	560	5,040	---	---	---	7,050	332	1,490	14,900	629	5,370
<b>25</b>	20,300	300	5,060	---	---	---	3,730	343	1,070	12,200	630	5,400
<b>26</b>	3,810	280	983	---	---	---	3,890	313	1,140	13,700	839	6,200
<b>27</b>	10,500	310	2,050	---	---	---	2,690	303	983	12,600	569	4,890
<b>28</b>	31,500	370	5,840	1,140	278	461	2,120	272	759	13,100	509	4,290
<b>29</b>	---	---	---	1,100	268	546	2,280	273	786	12,500	478	4,010
<b>30</b>	---	---	---	1,680	268	726	4,810	283	918	14,100	428	3,550
<b>31</b>	---	---	---	17,100	328	3,980	---	---	---	23,600	487	4,610
<b>Month</b>	31,500	240	2,660	22,500	230	1,570	35,100	248	2,750	34,400	282	7,370

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**
**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>
				<b>June</b>			<b>July</b>			<b>August</b>		
<b>1</b>	18,800	507	5,400	28,300	2,430	12,300	31,100	3,500	15,400	8,370	281	1,700
<b>2</b>	17,700	447	4,300	29,500	2,720	13,500	27,900	4,010	15,600	20,300	364	4,580
<b>3</b>	17,100	535	5,080	31,200	3,590	14,600	30,900	5,560	18,800	14,500	363	4,460
<b>4</b>	22,800	1,030	8,440	30,000	4,480	15,500	34,900	10,700	23,700	11,500	334	2,930
<b>5</b>	24,600	1,620	10,800	28,100	4,680	15,800	29,800	7,560	20,500	18,100	342	3,470
<b>6</b>	23,400	1,450	10,500	25,900	3,840	14,300	29,500	5,220	18,400	21,600	396	5,460
<b>7</b>	21,800	1,380	10,000	22,700	2,930	13,200	30,900	3,860	16,900	16,400	689	6,860
<b>8</b>	18,400	1,310	9,280	29,700	3,290	14,800	36,100	5,090	18,900	9,520	247	2,270
<b>9</b>	21,100	1,660	10,700	23,700	2,050	11,900	38,900	7,820	21,500	1,260	164	372
<b>10</b>	23,400	1,950	11,600	27,700	1,520	10,300	34,300	7,020	21,300	2,010	200	435
<b>11</b>	32,200	2,390	13,700	30,300	1,180	9,470	34,400	9,610	20,500	6,120	254	1,240
<b>12</b>	34,700	3,330	16,000	34,900	1,140	9,870	33,300	6,900	18,800	6,290	280	1,490
<b>13</b>	33,900	3,450	16,600	34,200	1,860	12,900	29,300	5,750	16,500	3,300	297	1,100
<b>14</b>	35,000	3,280	16,600	31,800	5,100	17,200	26,900	5,930	16,100	2,390	305	1,090
<b>15</b>	34,800	4,330	19,100	32,000	4,610	18,500	26,300	6,410	16,400	3,210	332	1,470
<b>16</b>	33,600	4,960	18,500	28,500	3,940	15,700	23,500	3,700	12,900	1,210	387	698
<b>17</b>	34,600	3,050	16,400	26,700	3,160	13,400	21,400	2,880	11,000	5,020	367	1,570
<b>18</b>	34,100	3,930	16,400	24,000	2,680	11,600	17,300	2,140	8,840	9,720	524	2,880
<b>19</b>	31,400	6,140	17,900	20,300	2,570	11,000	17,100	2,110	8,840	8,070	540	3,210
<b>20</b>	31,500	4,180	17,400	21,800	1,560	10,300	11,100	1,190	5,240	4,130	354	1,530
<b>21</b>	25,500	3,250	13,600	15,800	889	6,340	10,400	805	3,970	3,940	356	1,290
<b>22</b>	21,000	2,950	12,100	8,790	617	3,180	8,730	658	2,890	4,040	358	1,290
<b>23</b>	19,600	2,940	11,500	11,200	668	3,710	13,200	733	3,750	6,610	371	1,630
<b>24</b>	23,600	3,380	12,900	15,400	840	5,000	15,700	673	4,160	5,220	342	1,490
<b>25</b>	27,100	3,520	13,400	26,700	1,080	8,210	13,400	680	3,940	8,000	344	1,810
<b>26</b>	24,000	2,700	12,100	25,400	1,190	9,440	22,500	870	5,560	12,700	388	3,160
<b>27</b>	24,100	2,490	11,300	28,100	1,080	8,900	28,800	1,100	9,870	16,000	445	5,240
<b>28</b>	26,200	2,490	11,600	31,300	1,220	10,100	29,000	152	6,690	23,400	753	8,710
<b>29</b>	30,400	1,860	10,800	34,400	1,580	12,200	1,480	133	393	25,800	1,260	10,300
<b>30</b>	28,900	2,240	11,900	33,700	2,040	13,600	1,500	198	626	25,000	541	7,340
<b>31</b>	---	---	---	32,300	3,010	15,000	2,450	235	860	---	---	---
<b>Month</b>	35,000	447	12,500	34,900	617	11,700	38,900	133	11,900	25,800	164	3,040

	<b>Max</b>	<b>Min</b>	<b>Mean</b>
<b>Year</b>	38,900	133	6,350

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**



**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**
**TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	
<b>October</b>				<b>November</b>				<b>December</b>				<b>January</b>	
<b>1</b>	22.6	20.1	21.5	14.5	13.2	13.9	10.0	8.2	9.2	---	---	---	
<b>2</b>	20.6	18.6	19.7	13.3	11.6	12.4	9.3	8.3	8.8	---	---	---	
<b>3</b>	19.1	17.8	18.6	12.0	11.0	11.5	8.3	7.2	7.9	---	---	---	
<b>4</b>	18.0	16.2	17.0	11.8	11.1	11.6	7.4	6.3	6.8	---	---	---	
<b>5</b>	16.3	15.5	15.7	11.6	11.2	11.4	6.4	5.3	5.8	2.1	1.6	2.0	
<b>6</b>	15.9	14.8	15.3	11.3	10.5	10.9	5.4	3.5	4.4	1.9	1.0	1.6	
<b>7</b>	16.4	14.8	15.6	11.0	9.9	10.3	4.0	2.4	3.1	1.4	0.9	1.2	
<b>8</b>	16.9	15.5	16.2	10.2	9.0	9.7	3.0	1.4	2.3	1.0	0.3	0.7	
<b>9</b>	17.5	16.1	16.8	10.0	8.7	9.6	2.3	1.1	1.8	0.3	-0.2	0.0	
<b>10</b>	17.7	16.6	17.1	9.9	9.2	9.6	1.9	0.6	1.4	0.1	-0.3	-0.1	
<b>11</b>	18.6	17.3	17.9	9.8	9.0	9.3	1.7	0.7	1.4	0.1	-0.3	-0.1	
<b>12</b>	19.0	18.1	18.6	9.1	8.2	8.7	3.5	1.5	2.6	0.1	-0.3	-0.1	
<b>13</b>	18.9	17.7	18.3	8.7	7.6	8.5	3.8	2.9	3.5	0.4	-0.3	-0.1	
<b>14</b>	18.1	16.4	17.3	8.8	8.1	8.5	3.4	2.0	2.5	0.2	-0.5	-0.1	
<b>15</b>	16.5	15.3	15.9	9.4	8.5	8.9	---	---	---	0.5	-0.6	0.1	
<b>16</b>	15.4	14.6	15.0	10.4	9.3	9.7	---	---	---	1.0	0.1	0.7	
<b>17</b>	15.3	14.4	14.9	12.1	10.4	11.1	---	---	---	1.0	0.2	0.7	
<b>18</b>	15.4	14.6	14.9	11.7	10.9	11.3	---	---	---	0.9	0.2	0.6	
<b>19</b>	15.2	14.6	14.9	11.2	10.2	10.8	---	---	---	1.9	0.6	1.2	
<b>20</b>	14.7	14.1	14.4	10.7	9.7	10.3	---	---	---	2.5	1.3	1.8	
<b>21</b>	14.8	13.8	14.3	10.6	9.6	10.1	---	---	---	2.7	1.8	2.1	
<b>22</b>	14.4	13.6	14.0	10.9	9.6	10.3	---	---	---	1.8	0.7	1.3	
<b>23</b>	14.1	12.9	13.6	11.6	10.4	11.0	---	---	---	0.7	0.0	0.3	
<b>24</b>	14.7	13.5	14.2	11.6	10.5	10.9	---	---	---	0.1	-0.4	-0.2	
<b>25</b>	15.8	14.2	14.9	10.7	9.4	10.2	---	---	---	0.4	-0.4	0.0	
<b>26</b>	16.8	15.6	16.1	10.5	9.7	10.1	---	---	---	0.5	-0.8	0.1	
<b>27</b>	18.6	16.8	17.6	9.9	8.0	9.0	---	---	---	0.9	-0.7	0.2	
<b>28</b>	19.1	18.2	18.7	8.4	7.4	8.0	---	---	---	1.5	0.3	0.8	
<b>29</b>	18.8	16.6	17.8	7.8	7.0	7.4	---	---	---	2.0	0.6	1.3	
<b>30</b>	16.8	15.0	16.0	8.4	6.9	7.6	---	---	---	2.6	0.6	1.7	
<b>31</b>	15.4	14.0	14.9	---	---	---	---	---	---	2.6	0.8	1.8	
<b>Month</b>	22.6	12.9	16.4	14.5	6.9	10.1	10.0	0.6	4.4	2.7	-0.8	0.7	

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**
**TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

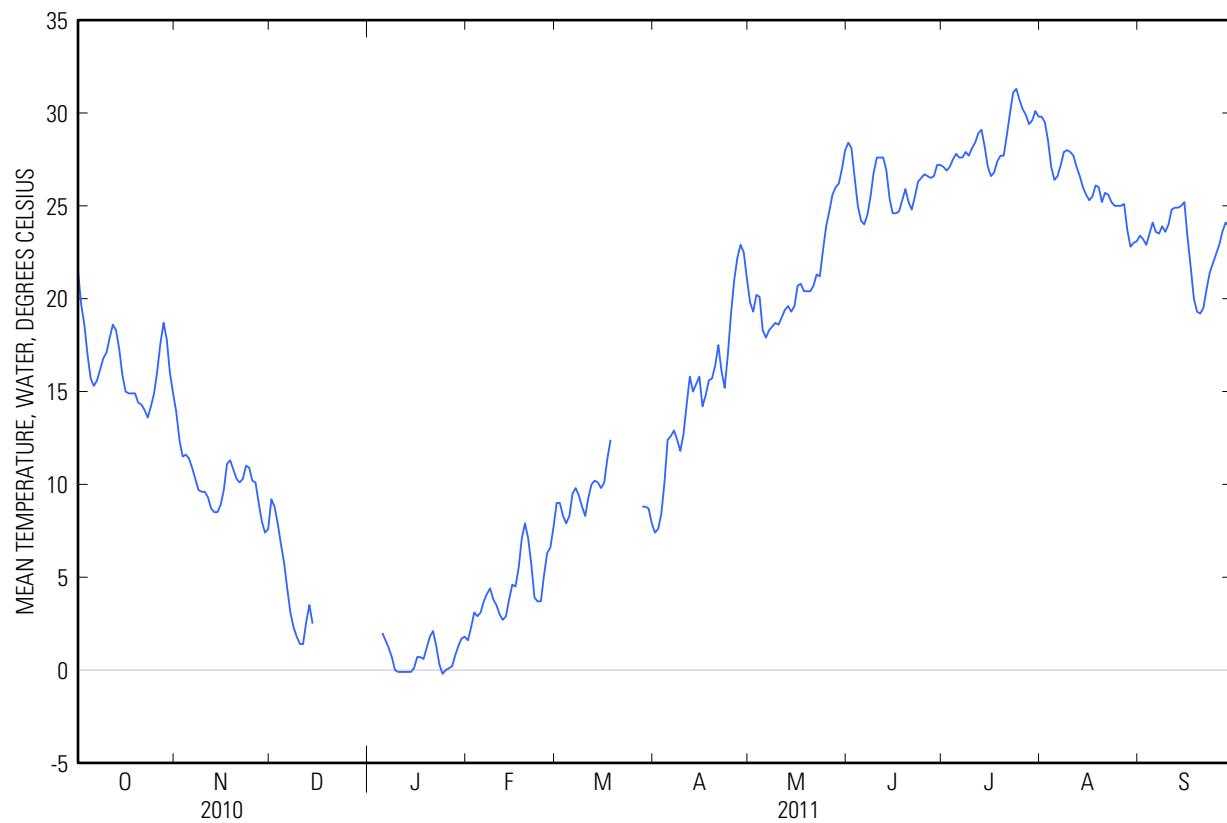
<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>
<b>February</b>				<b>March</b>				<b>April</b>				<b>May</b>
<b>1</b>	2.2	0.7	1.6	9.9	8.0	9.0	8.1	6.6	7.4	20.4	18.9	19.8
<b>2</b>	3.5	0.9	2.3	9.7	8.0	9.0	8.4	7.0	7.6	20.4	18.3	19.3
<b>3</b>	3.7	2.7	3.1	8.9	7.7	8.3	9.8	7.7	8.4	21.7	18.7	20.2
<b>4</b>	3.2	2.4	2.9	8.4	7.2	7.9	12.6	8.6	10.1	20.9	19.0	20.1
<b>5</b>	3.5	2.8	3.1	9.2	7.6	8.3	13.6	10.9	12.4	19.0	17.4	18.3
<b>6</b>	4.4	3.2	3.7	10.3	8.8	9.5	13.9	11.3	12.6	18.7	16.8	17.9
<b>7</b>	4.8	3.8	4.1	10.4	9.2	9.8	14.1	11.9	12.9	19.3	17.0	18.3
<b>8</b>	4.8	3.6	4.4	10.1	8.8	9.4	13.0	11.7	12.4	19.4	17.4	18.5
<b>9</b>	4.3	3.5	3.8	9.4	8.3	8.8	12.9	10.8	11.8	19.8	17.5	18.7
<b>10</b>	3.8	3.0	3.5	9.3	7.0	8.3	13.8	11.5	12.7	19.5	17.5	18.6
<b>11</b>	3.4	2.6	3.0	10.4	7.8	9.3	16.7	12.4	14.3	19.9	18.2	19.0
<b>12</b>	3.0	2.4	2.7	10.4	8.7	10	17.1	14.5	15.8	20.5	18.4	19.4
<b>13</b>	3.4	2.4	2.9	10.7	9.4	10.2	15.8	14.5	15.0	20.5	18.8	19.6
<b>14</b>	4.8	3.1	3.8	10.7	9.2	10.1	16.8	14.0	15.4	19.8	18.5	19.3
<b>15</b>	5.5	4.0	4.6	10.5	9.1	9.8	17.1	14.8	15.8	20.8	18.6	19.6
<b>16</b>	5.5	3.3	4.5	11.2	8.9	10.1	15.6	12.7	14.2	21.8	19.9	20.7
<b>17</b>	7.0	4.1	5.5	12.8	10.3	11.4	16.6	12.7	14.8	21.5	20.0	20.8
<b>18</b>	8.8	5.8	7.1	14.4	11.2	12.4	16.3	14.8	15.6	21.2	19.8	20.4
<b>19</b>	8.8	7.2	7.9	---	---	---	16.5	15.0	15.7	21.2	19.8	20.4
<b>20</b>	7.6	6.3	7.1	---	---	---	18.5	14.5	16.4	20.9	19.9	20.4
<b>21</b>	6.8	4.5	5.7	---	---	---	18.5	16.6	17.5	21.8	19.6	20.7
<b>22</b>	5.0	3.3	3.9	---	---	---	17.5	15.2	16.1	21.8	20.8	21.3
<b>23</b>	4.3	3.0	3.7	---	---	---	16.1	13.8	15.2	22.2	20.5	21.2
<b>24</b>	4.2	3.1	3.7	---	---	---	18.9	15.4	17.0	23.6	21.8	22.6
<b>25</b>	7.0	3.3	5.1	---	---	---	21.1	17.8	19.2	25.1	23.0	23.9
<b>26</b>	7.1	5.4	6.3	---	---	---	22.7	19.6	21.0	25.9	23.6	24.7
<b>27</b>	7.6	5.4	6.6	---	---	---	23.9	20.9	22.2	27.0	24.6	25.6
<b>28</b>	9.1	6.0	7.7	9.5	7.3	8.8	23.9	21.8	22.9	26.9	25.1	26.0
<b>29</b>	---	---	---	9.7	7.5	8.8	23.3	20.4	22.5	27.4	25.1	26.2
<b>30</b>	---	---	---	9.2	8.1	8.7	21.9	19.8	21.1	28.6	26.0	27.0
<b>31</b>	---	---	---	8.6	6.8	7.9	---	---	---	29.4	27.0	28.0
<b>Month</b>	9.1	0.7	4.4	14.4	6.8	9.4	23.9	6.6	15.2	29.4	16.8	21.2

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**
**TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>
				<b>June</b>			<b>July</b>			<b>August</b>		
<b>1</b>	29.6	27.5	28.4	28.0	26.3	27.1	30.8	29.1	29.8	24.1	22.3	23.4
<b>2</b>	28.5	27.0	28.1	27.8	26.1	26.9	30.1	28.9	29.5	24.0	22.5	23.2
<b>3</b>	27.0	25.4	26.5	28.0	26.4	27.1	29.5	27.8	28.5	23.6	22.1	22.9
<b>4</b>	25.7	23.9	25.0	28.4	26.9	27.5	28.1	26.4	27.1	24.1	22.8	23.5
<b>5</b>	24.8	23.3	24.2	28.2	27.3	27.8	26.9	25.7	26.4	24.9	23.5	24.1
<b>6</b>	25.0	22.9	24.0	28.0	27.2	27.6	27.1	25.9	26.6	24.3	22.7	23.6
<b>7</b>	25.3	23.5	24.5	28.2	26.9	27.6	27.8	26.4	27.2	24.3	22.7	23.5
<b>8</b>	26.5	24.4	25.5	28.5	27.5	27.9	28.6	27.4	27.9	24.3	23.5	23.9
<b>9</b>	27.6	25.7	26.8	28.6	27.0	27.7	28.6	27.6	28.0	23.9	23.1	23.6
<b>10</b>	28.8	26.9	27.6	29.2	27.4	28.1	28.6	27.3	27.9	25.0	23.0	24.0
<b>11</b>	28.4	27.1	27.6	29.8	27.6	28.4	28.4	27.0	27.7	25.5	24.0	24.8
<b>12</b>	28.4	26.9	27.6	30.0	28.0	28.9	28.0	26.2	27.1	25.7	24.0	24.9
<b>13</b>	27.3	26.1	26.9	29.7	28.5	29.1	27.1	26.1	26.6	25.8	23.8	24.9
<b>14</b>	26.1	24.7	25.4	29.0	27.0	28.2	26.2	25.6	26.0	26.0	24.0	25.0
<b>15</b>	25.7	23.6	24.6	28.0	26.3	27.1	26.0	25.3	25.6	25.9	24.4	25.2
<b>16</b>	25.2	24.0	24.6	27.6	25.8	26.6	25.8	24.7	25.3	24.6	22.6	23.3
<b>17</b>	25.7	23.9	24.7	27.8	25.9	26.8	26.6	24.6	25.5	23.1	20.6	21.7
<b>18</b>	26.3	24.4	25.3	28.3	26.5	27.4	26.8	25.3	26.1	20.9	19.4	20.0
<b>19</b>	26.3	25.4	25.9	28.1	27.4	27.7	26.6	25.3	26.0	19.7	18.9	19.3
<b>20</b>	26.0	24.9	25.2	28.8	26.9	27.7	26.0	24.2	25.2	19.6	18.8	19.2
<b>21</b>	25.5	24.1	24.8	29.7	28.0	28.8	26.0	25.2	25.7	20.1	19.0	19.5
<b>22</b>	26.3	24.7	25.5	31.0	29.1	30.0	26.4	25.0	25.6	21.1	19.9	20.5
<b>23</b>	26.7	25.8	26.3	32.0	30.4	31.1	26.0	24.0	25.2	21.9	21.0	21.4
<b>24</b>	27.1	25.8	26.5	32.2	30.8	31.3	25.5	24.2	25.0	22.2	21.6	21.9
<b>25</b>	27.4	26.1	26.7	31.1	29.8	30.7	25.2	24.7	25.0	23.0	21.9	22.4
<b>26</b>	27.2	26.0	26.6	31.3	29.7	30.2	26.1	24.6	25.0	23.5	22.5	22.9
<b>27</b>	27.2	26.0	26.5	30.7	29.2	29.9	25.5	24.2	25.1	24.4	22.9	23.6
<b>28</b>	27.4	26.0	26.6	29.9	28.8	29.4	24.3	22.9	23.7	24.6	23.2	24.1
<b>29</b>	28.1	26.4	27.2	30.7	28.7	29.6	23.7	22.2	22.8	24.3	23.2	23.9
<b>30</b>	28.0	26.5	27.2	30.9	29.4	30.1	23.9	21.9	23.0	24.0	22.4	23.1
<b>31</b>	---	---	---	30.5	29.1	29.8	24.1	21.8	23.1	---	---	---
<b>Month</b>	29.6	22.9	26.1	32.2	25.8	28.5	30.8	21.8	26.1	26.0	18.8	22.9

	<b>Max</b>	<b>Min</b>	<b>Mean</b>
<b>Year</b>	32.2	-0.8	16.4

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**



**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued****pH, WATER, UNFILTERED, FIELD, STANDARD UNITS  
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Median</b>	<b>Max</b>	<b>Min</b>	<b>Median</b>	<b>Max</b>	<b>Min</b>	<b>Median</b>	<b>Max</b>	<b>Min</b>	<b>Median</b>	
<b>October</b>				<b>November</b>				<b>December</b>				<b>January</b>	
<b>1</b>	7.1	6.8	6.9	7.3	6.9	7.1	7.7	7.0	7.2	---	---	---	
<b>2</b>	6.9	6.7	6.8	7.3	7.0	7.2	7.3	7.0	7.2	---	---	---	
<b>3</b>	7.4	6.7	6.8	7.3	7.0	7.2	7.4	7.0	7.2	---	---	---	
<b>4</b>	7.2	6.8	7.0	7.7	7.1	7.2	7.5	7.1	7.3	---	---	---	
<b>5</b>	6.9	6.7	6.8	7.3	7.1	7.2	7.5	7.0	7.3	7.4	7.0	7.2	
<b>6</b>	7.0	6.7	6.8	7.3	6.9	7.1	7.4	7.0	7.2	7.7	7.0	7.3	
<b>7</b>	7.0	6.7	6.9	7.3	6.9	7.1	7.4	7.0	7.2	7.7	7.2	7.4	
<b>8</b>	7.2	6.8	7.0	7.3	7.0	7.1	7.5	7.0	7.2	7.7	7.2	7.4	
<b>9</b>	7.3	6.8	7.0	7.5	7.0	7.2	7.5	7.1	7.3	7.3	7.0	7.2	
<b>10</b>	7.6	6.9	7.0	7.5	7.1	7.3	7.5	7.0	7.3	7.3	7.0	7.1	
<b>11</b>	7.1	6.8	7.0	7.7	7.2	7.3	7.5	7.1	7.3	7.4	7.0	7.2	
<b>12</b>	7.4	6.8	7.0	7.4	7.2	7.3	7.5	7.1	7.4	7.4	7.0	7.2	
<b>13</b>	7.2	6.9	7.0	7.2	7.0	7.1	7.4	7.0	7.2	7.2	7.0	7.1	
<b>14</b>	7.2	6.9	7.0	7.1	6.9	7.1	7.1	7.0	7.0	7.5	7.0	7.3	
<b>15</b>	7.1	6.9	7.0	7.1	6.9	7.0	---	---	---	7.5	7.0	7.3	
<b>16</b>	7.2	6.9	7.0	7.1	6.9	7.0	---	---	---	7.4	7.0	7.2	
<b>17</b>	7.3	7.0	7.1	7.1	6.9	7.0	---	---	---	7.5	7.0	7.3	
<b>18</b>	7.2	7.0	7.1	7.0	6.8	6.9	---	---	---	7.9	7.1	7.4	
<b>19</b>	7.2	7.0	7.1	7.2	6.8	7.0	---	---	---	7.7	7.0	7.3	
<b>20</b>	7.2	7.0	7.1	7.3	7.0	7.1	---	---	---	7.5	7.0	7.2	
<b>21</b>	7.2	7.0	7.1	7.3	7.0	7.1	---	---	---	7.4	7.0	7.2	
<b>22</b>	7.2	7.0	7.1	7.6	7.0	7.2	---	---	---	7.4	7.0	7.2	
<b>23</b>	7.3	7.1	7.2	7.4	7.0	7.2	---	---	---	7.4	7.0	7.2	
<b>24</b>	7.3	7.1	7.2	7.3	7.0	7.1	---	---	---	7.4	7.0	7.3	
<b>25</b>	7.5	7.1	7.2	7.6	7.0	7.2	---	---	---	7.4	6.9	7.2	
<b>26</b>	7.4	7.0	7.2	7.5	7.1	7.2	---	---	---	7.7	6.9	7.3	
<b>27</b>	7.3	7.0	7.2	7.2	7.0	7.1	---	---	---	7.5	7.0	7.3	
<b>28</b>	7.2	6.9	7.1	7.3	7.0	7.1	---	---	---	7.4	6.9	7.1	
<b>29</b>	7.2	6.8	7.0	7.3	7.0	7.2	---	---	---	7.3	6.8	7.1	
<b>30</b>	7.2	6.9	7.0	7.3	7.0	7.2	---	---	---	7.3	6.9	7.1	
<b>31</b>	7.2	6.9	7.0	---	---	---	---	---	---	7.3	6.9	7.1	
<b>Max</b>	7.6	7.1	7.2	7.7	7.2	7.3	7.7	7.1	7.4	7.9	7.2	7.4	
<b>Min</b>	6.9	6.7	6.8	7.0	6.8	6.9	7.1	7.0	7.0	7.2	6.8	7.1	

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued****pH, WATER, UNFILTERED, FIELD, STANDARD UNITS  
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

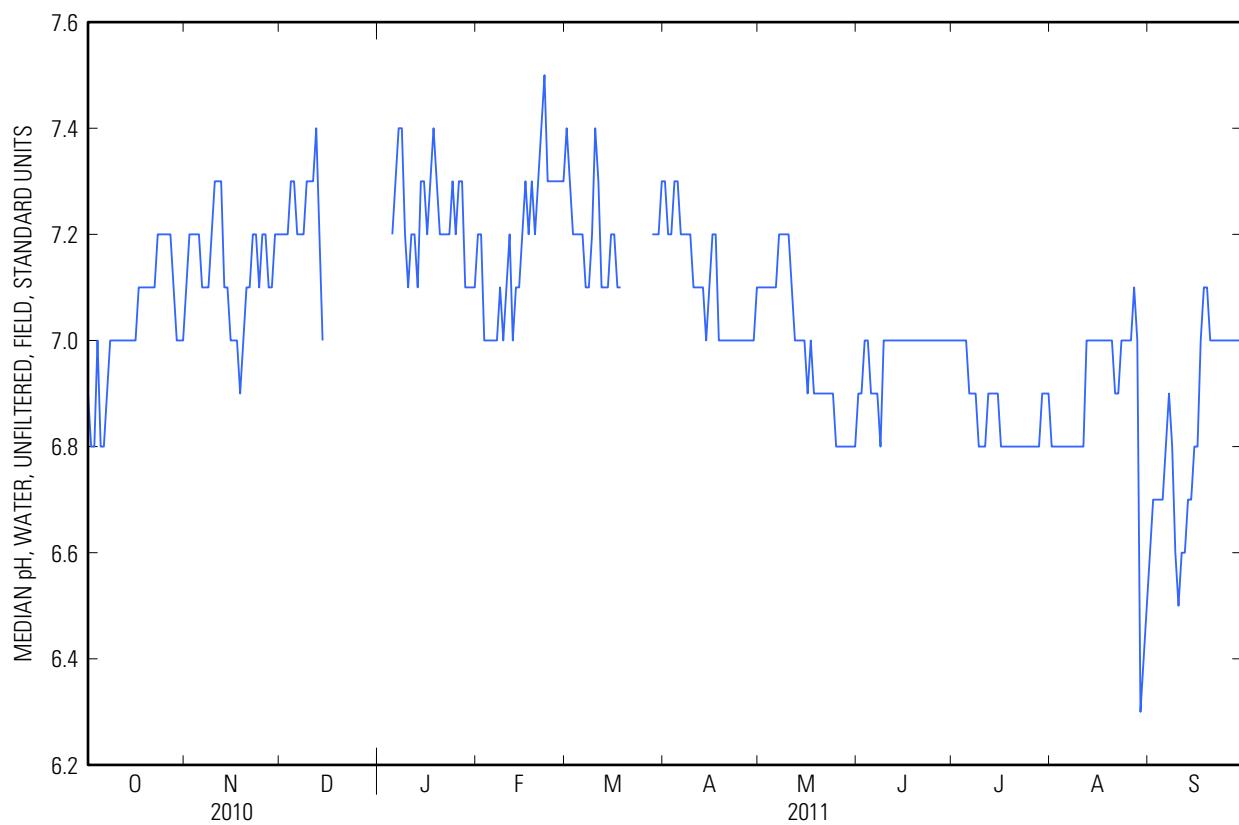
<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Median</b>	<b>Max</b>	<b>Min</b>	<b>Median</b>	<b>Max</b>	<b>Min</b>	<b>Median</b>	<b>Max</b>	<b>Min</b>	<b>Median</b>	
<b>February</b>				<b>March</b>				<b>April</b>				<b>May</b>	
<b>1</b>	7.4	6.9	7.2	7.5	7.2	7.4	7.5	7.2	7.3	7.2	6.9	7.1	
<b>2</b>	7.6	7.0	7.2	7.4	7.1	7.3	7.4	7.1	7.2	7.6	7.0	7.1	
<b>3</b>	7.2	6.9	7.0	7.4	7.0	7.2	7.4	7.0	7.2	7.8	7.0	7.1	
<b>4</b>	7.3	6.9	7.0	7.4	7.0	7.2	7.5	7.0	7.3	7.7	7.0	7.1	
<b>5</b>	7.2	6.8	7.0	7.4	7.1	7.2	7.6	7.0	7.3	7.4	6.9	7.1	
<b>6</b>	7.2	6.9	7.0	7.4	7.1	7.2	7.5	7.1	7.2	7.5	7.0	7.1	
<b>7</b>	7.2	6.9	7.0	7.4	7.0	7.1	7.3	7.0	7.2	7.7	7.0	7.2	
<b>8</b>	7.3	6.9	7.1	7.2	7.0	7.1	7.8	7.0	7.2	7.7	7.0	7.2	
<b>9</b>	7.2	6.9	7.0	7.4	7.0	7.2	7.5	7.0	7.2	7.7	7.0	7.2	
<b>10</b>	7.2	7.0	7.1	7.9	7.3	7.4	7.2	7.0	7.1	7.5	7.1	7.2	
<b>11</b>	7.3	7.0	7.2	7.7	7.0	7.3	7.2	6.9	7.1	7.4	7.0	7.1	
<b>12</b>	7.4	6.9	7.0	7.3	7.0	7.1	7.2	7.0	7.1	7.4	7.0	7.0	
<b>13</b>	7.3	6.9	7.1	7.2	7.0	7.1	7.2	6.9	7.1	7.3	7.0	7.0	
<b>14</b>	7.4	7.0	7.1	7.2	7.0	7.1	7.1	6.8	7.0	7.5	6.9	7.0	
<b>15</b>	7.4	7.0	7.2	7.3	7.0	7.2	7.4	6.9	7.1	7.8	6.9	7.0	
<b>16</b>	7.7	7.0	7.3	7.5	7.1	7.2	7.8	7.0	7.2	7.9	6.9	6.9	
<b>17</b>	7.5	7.0	7.2	7.2	7.0	7.1	7.8	7.0	7.2	7.9	6.9	7.0	
<b>18</b>	7.7	7.0	7.3	7.3	7.0	7.1	7.2	6.8	7.0	7.6	6.8	6.9	
<b>19</b>	7.5	7.0	7.2	---	---	---	7.4	6.8	7.0	7.3	6.8	6.9	
<b>20</b>	7.5	7.1	7.3	---	---	---	7.6	6.8	7.0	7.1	6.8	6.9	
<b>21</b>	7.8	7.2	7.4	---	---	---	7.3	6.8	7.0	7.1	6.8	6.9	
<b>22</b>	8.1	7.2	7.5	---	---	---	7.2	6.8	7.0	7.0	6.9	6.9	
<b>23</b>	7.5	7.2	7.3	---	---	---	7.2	6.8	7.0	7.2	6.8	6.9	
<b>24</b>	7.4	7.2	7.3	---	---	---	7.1	6.8	7.0	7.0	6.8	6.9	
<b>25</b>	7.6	7.2	7.3	---	---	---	7.1	6.8	7.0	7.0	6.8	6.8	
<b>26</b>	7.3	7.2	7.3	---	---	---	7.1	6.9	7.0	6.9	6.8	6.8	
<b>27</b>	7.5	7.2	7.3	---	---	---	7.1	6.8	7.0	6.9	6.8	6.8	
<b>28</b>	8.2	7.2	7.3	7.3	7.1	7.2	7.2	6.8	7.0	6.9	6.8	6.8	
<b>29</b>	---	---	---	7.3	7.1	7.2	7.1	6.8	7.0	6.9	6.7	6.8	
<b>30</b>	---	---	---	7.3	7.1	7.2	7.2	6.9	7.1	7.0	6.7	6.8	
<b>31</b>	---	---	---	7.5	7.1	7.3	---	---	---	7.3	6.7	6.8	
<b>Max</b>	8.2	7.2	7.5	7.9	7.3	7.4	7.8	7.2	7.3	7.9	7.1	7.2	
<b>Min</b>	7.2	6.8	7.0	7.2	7.0	7.1	7.1	6.8	7.0	6.9	6.7	6.8	

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued****pH, WATER, UNFILTERED, FIELD, STANDARD UNITS  
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Median</b>	<b>Max</b>	<b>Min</b>	<b>Median</b>	<b>Max</b>	<b>Min</b>	<b>Median</b>	<b>Max</b>	<b>Min</b>	<b>Median</b>	
<b>June</b>				<b>July</b>				<b>August</b>				<b>September</b>	
<b>1</b>	7.1	6.8	6.9	7.2	6.9	7.0	7.0	6.7	6.8	6.7	6.4	6.6	
<b>2</b>	7.0	6.7	6.9	7.2	6.9	7.0	6.9	6.7	6.8	7.1	6.5	6.7	
<b>3</b>	7.0	6.8	7.0	7.3	6.9	7.0	6.9	6.7	6.8	6.9	6.5	6.7	
<b>4</b>	7.2	6.9	7.0	7.2	6.9	7.0	7.0	6.7	6.8	6.8	6.5	6.7	
<b>5</b>	7.1	6.8	6.9	7.0	6.9	7.0	6.8	6.7	6.8	7.1	6.5	6.7	
<b>6</b>	7.0	6.8	6.9	7.0	6.8	6.9	6.9	6.7	6.8	7.3	6.6	6.8	
<b>7</b>	7.0	6.7	6.9	7.0	6.8	6.9	6.9	6.7	6.8	7.0	6.7	6.9	
<b>8</b>	6.9	6.7	6.8	7.0	6.7	6.9	7.1	6.7	6.8	6.9	6.6	6.8	
<b>9</b>	7.1	6.8	7.0	6.9	6.7	6.8	7.3	6.8	6.8	6.8	6.4	6.6	
<b>10</b>	7.1	6.9	7.0	7.1	6.7	6.8	7.0	6.8	6.8	6.7	6.4	6.5	
<b>11</b>	7.4	6.9	7.0	7.4	6.7	6.8	7.2	6.8	6.8	6.7	6.4	6.6	
<b>12</b>	7.5	6.9	7.0	7.5	6.8	6.9	7.2	6.9	7.0	6.7	6.4	6.6	
<b>13</b>	7.4	6.9	7.0	7.2	6.8	6.9	7.1	6.9	7.0	6.8	6.5	6.7	
<b>14</b>	7.8	6.9	7.0	7.4	6.8	6.9	7.1	6.9	7.0	6.8	6.5	6.7	
<b>15</b>	7.8	6.9	7.0	7.4	6.8	6.9	7.0	6.9	7.0	6.9	6.6	6.8	
<b>16</b>	7.6	6.9	7.0	6.9	6.8	6.8	7.0	6.9	7.0	7.0	6.8	6.8	
<b>17</b>	7.4	6.9	7.0	6.9	6.7	6.8	7.1	6.8	7.0	7.1	6.7	7.0	
<b>18</b>	7.2	6.9	7.0	6.9	6.7	6.8	7.1	6.8	7.0	7.3	6.9	7.1	
<b>19</b>	7.1	6.9	7.0	6.9	6.7	6.8	7.1	6.8	7.0	7.2	6.9	7.1	
<b>20</b>	7.0	6.9	7.0	6.9	6.7	6.8	7.1	6.8	7.0	7.1	6.8	7.0	
<b>21</b>	7.0	6.9	7.0	7.0	6.7	6.8	7.0	6.8	6.9	7.1	6.8	7.0	
<b>22</b>	7.0	6.9	7.0	6.9	6.7	6.8	7.1	6.8	6.9	7.1	6.8	7.0	
<b>23</b>	7.0	6.9	7.0	7.0	6.7	6.8	7.2	6.9	7.0	7.1	6.8	7.0	
<b>24</b>	7.0	6.9	7.0	6.9	6.7	6.8	7.2	6.8	7.0	7.1	6.7	7.0	
<b>25</b>	7.1	6.9	7.0	7.0	6.7	6.8	7.1	6.9	7.0	7.1	6.7	7.0	
<b>26</b>	7.0	6.9	7.0	7.0	6.7	6.8	7.3	6.8	7.0	7.1	6.7	7.0	
<b>27</b>	7.1	6.9	7.0	7.3	6.7	6.8	7.5	6.9	7.1	7.2	6.8	7.0	
<b>28</b>	7.1	6.9	7.0	7.2	6.7	6.8	7.5	6.3	7.0	7.3	6.8	7.0	
<b>29</b>	7.4	6.9	7.0	7.4	6.8	6.9	6.5	6.2	6.3	7.3	6.8	7.0	
<b>30</b>	7.2	6.9	7.0	7.3	6.8	6.9	6.5	6.3	6.4	7.3	6.8	7.0	
<b>31</b>	---	---	---	7.2	6.8	6.9	6.6	6.4	6.5	---	---	---	
<b>Max</b>	7.8	6.9	7.0	7.5	6.9	7.0	7.5	6.9	7.1	7.3	6.9	7.1	
<b>Min</b>	6.9	6.7	6.8	6.9	6.7	6.8	6.5	6.2	6.3	6.7	6.4	6.5	

	<b>Max</b>	<b>Min</b>	<b>Median</b>
<b>Year Maximum</b>	8.2	7.3	7.5
<b>Year Minimum</b>	6.5	6.2	6.3

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**



**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued****DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	
<b>October</b>				<b>November</b>				<b>December</b>				<b>January</b>	
<b>1</b>	5.5	3.6	4.6	7.1	5.6	6.3	9.2	7.2	8.1	---	---	---	
<b>2</b>	5.5	4.3	5.0	7.5	6.0	6.7	8.8	7.4	8.1	---	---	---	
<b>3</b>	7.0	4.0	5.0	8.2	6.4	7.2	8.9	7.4	8.2	---	---	---	
<b>4</b>	6.2	4.6	5.3	9.7	6.8	7.6	9.4	7.9	8.7	---	---	---	
<b>5</b>	5.5	4.1	4.8	8.0	6.5	7.1	10.1	8.3	9.2	11.2	9.9	10.5	
<b>6</b>	5.8	4.5	5.2	8.5	7.0	7.7	11.1	9.3	10.1	11.2	9.8	10.4	
<b>7</b>	5.9	5.2	5.6	9.1	7.3	8.3	11.3	10.1	10.7	11.1	9.9	10.4	
<b>8</b>	6.1	5.1	5.6	9.7	8.2	8.8	10.8	10.5	10.6	11.0	10.1	10.6	
<b>9</b>	6.2	5.1	5.6	10.3	8.3	8.9	---	---	---	11.8	10.4	11.3	
<b>10</b>	7.0	5.1	5.6	9.7	7.8	8.6	---	---	---	12.0	11.0	11.5	
<b>11</b>	5.6	4.8	5.2	10.3	7.8	8.9	---	---	---	11.8	10.6	11.1	
<b>12</b>	6.1	4.5	5.0	9.1	7.8	8.5	---	---	---	12.2	10.6	11.4	
<b>13</b>	5.7	4.3	4.7	8.0	7.6	7.8	---	---	---	12.2	11.6	11.9	
<b>14</b>	5.4	4.3	4.6	8.1	7.3	7.8	---	---	---	12.1	11.1	11.4	
<b>15</b>	6.9	4.4	5.4	8.2	7.2	7.6	---	---	---	12.0	10.8	11.3	
<b>16</b>	8.1	5.9	6.7	8.1	6.8	7.4	---	---	---	11.9	10.6	11.2	
<b>17</b>	7.2	5.9	6.4	8.7	6.9	7.8	---	---	---	11.8	10.4	11.1	
<b>18</b>	7.2	5.7	6.2	8.5	6.9	7.9	---	---	---	12.1	10.8	11.4	
<b>19</b>	7.3	5.6	6.2	8.1	6.9	7.4	---	---	---	11.7	10.7	11.2	
<b>20</b>	7.3	5.6	6.2	8.4	6.8	7.4	---	---	---	11.4	10.5	11.0	
<b>21</b>	8.7	5.6	6.6	8.5	6.8	7.6	---	---	---	11.6	10.6	11.1	
<b>22</b>	10.5	6.3	7.8	8.7	6.9	7.7	---	---	---	11.7	10.9	11.3	
<b>23</b>	11.2	6.7	8.5	8.3	7.0	7.7	---	---	---	12.0	10.9	11.4	
<b>24</b>	9.9	7.0	8.2	8.5	7.0	7.7	---	---	---	12.0	10.9	11.4	
<b>25</b>	9.0	6.7	7.6	8.6	6.8	7.5	---	---	---	12.1	10.8	11.4	
<b>26</b>	8.8	6.4	7.4	8.3	6.7	7.3	---	---	---	12.1	10.6	11.3	
<b>27</b>	7.9	6.2	6.8	8.4	6.7	7.4	---	---	---	12.1	11.2	11.7	
<b>28</b>	6.7	5.3	6.0	8.6	7.2	7.8	---	---	---	12.0	11.0	11.6	
<b>29</b>	6.2	5.0	5.8	8.6	7.2	7.7	---	---	---	11.8	10.8	11.3	
<b>30</b>	6.5	4.9	5.7	8.7	7.2	7.8	---	---	---	11.6	10.6	11.1	
<b>31</b>	7.3	5.0	6.1	---	---	---	---	---	---	11.6	10.5	11.1	
<b>Month</b>	11.2	3.6	6.0	10.3	5.6	7.7	11.3	7.2	9.2	12.2	9.8	11.2	

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**
**DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>
<b>February</b>				<b>March</b>				<b>April</b>				<b>May</b>
<b>1</b>	11.6	10.5	11.0	13.4	9.4	11.5	9.2	7.5	8.2	12.0	4.6	7.4
<b>2</b>	11.9	10.5	11.1	12.4	9.8	11.5	10.2	7.8	8.9	13.0	4.5	7.3
<b>3</b>	11.5	10.9	11.3	11.8	10.2	11.1	10.3	8.3	9.3	14.7	4.8	7.8
<b>4</b>	11.5	10.6	11.0	12.1	9.9	10.8	10.4	8.0	9.1	11.7	5.2	8.2
<b>5</b>	11.6	10.2	10.9	12.0	9.8	10.7	9.9	8.0	9.0	12.5	5.1	9.2
<b>6</b>	11.4	10.2	10.9	11.0	9.2	10.1	9.6	7.5	8.3	13.4	5.8	9.0
<b>7</b>	11.2	9.8	10.5	10.2	9.1	9.7	8.7	7.0	7.7	14.4	6.1	9.4
<b>8</b>	11.5	9.6	10.4	10.1	8.9	9.5	9.1	6.7	7.4	14.5	5.8	9.1
<b>9</b>	11.5	10.5	11.0	9.8	8.8	9.2	9.2	6.6	7.5	14.5	5.8	8.9
<b>10</b>	11.5	10.2	10.7	10.5	9.0	9.4	10.0	6.7	7.8	13.0	6.1	7.9
<b>11</b>	11.5	9.9	10.5	9.8	8.2	9.1	11.0	6.6	8.3	11.2	6.0	7.6
<b>12</b>	12.0	9.7	10.9	9.6	8.8	9.3	10.7	6.9	8.1	13.0	5.6	7.8
<b>13</b>	11.9	10.0	11.0	9.5	8.6	9.0	8.4	5.9	7.1	12.6	5.1	7.4
<b>14</b>	11.8	10.4	11.2	9.6	8.2	8.8	10.0	5.4	7.5	10.1	4.8	7.0
<b>15</b>	11.7	10.4	11.1	9.6	8.0	8.6	10.9	5.9	8.1	10.6	4.1	6.4
<b>16</b>	11.4	10.0	10.7	10.0	8.2	8.8	8.9	6.7	7.6	10.9	4.2	6.3
<b>17</b>	11.2	9.6	10.4	10.2	7.7	9.0	10.3	6.3	8.4	10.8	4.3	6.2
<b>18</b>	10.6	9.1	9.8	10.3	7.7	8.9	9.0	7.4	8.3	8.9	4.4	6.1
<b>19</b>	11.1	9.0	9.9	---	---	---	9.0	6.4	7.7	9.1	3.5	5.9
<b>20</b>	10.8	9.2	10.0	---	---	---	9.2	6.3	7.6	9.2	3.6	6.0
<b>21</b>	11.0	8.9	9.6	---	---	---	9.5	6.5	7.9	9.9	3.5	5.9
<b>22</b>	11.1	9.3	10.1	---	---	---	8.8	5.7	7.3	7.8	3.6	5.2
<b>23</b>	12.7	9.9	10.7	---	---	---	9.2	5.9	7.2	8.3	3.5	5.2
<b>24</b>	12.4	10.1	10.8	---	---	---	10.3	6.1	8.2	9.7	3.3	6.1
<b>25</b>	12.8	10.1	11.5	---	---	---	11.4	5.7	8.4	8.7	2.3	4.9
<b>26</b>	12.8	10.3	11.9	---	---	---	12.1	5.3	8.3	8.5	2.4	4.3
<b>27</b>	13.4	10.0	11.2	---	---	---	12.1	4.8	8.3	9.3	2.5	4.7
<b>28</b>	13.0	9.7	11.1	10.1	8.0	9.2	10.6	5.1	8.2	7.6	2.3	4.6
<b>29</b>	---	---	---	9.9	7.8	8.9	10.8	4.9	7.6	9.1	2.2	4.4
<b>30</b>	---	---	---	9.5	7.7	8.6	12.3	4.8	7.8	11.5	2.4	4.8
<b>31</b>	---	---	---	8.9	7.7	8.3	---	---	---	5.0	2.7	3.3
<b>Month</b>	13.4	8.9	10.8	13.4	7.7	9.5	12.3	4.8	8.0	14.7	2.2	6.6

Water-Data Report 2011

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**

**DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	11.9	2.3	4.6	10.9	2.6	4.8	7.4	2.8	4.8	4.2	2.5	3.0
2	11.5	2.6	5.4	10.0	2.9	4.9	5.9	2.3	3.6	7.8	2.3	3.4
3	---	---	---	7.6	2.8	4.5	4.0	1.0	2.5	5.6	2.5	3.2
4	---	---	---	6.2	2.7	4.0	4.0	1.0	2.2	4.9	2.4	3.0
5	---	---	---	4.9	2.4	3.3	3.4	1.1	2.1	8.5	2.3	3.3
6	---	---	---	4.5	1.9	2.8	3.7	1.8	2.4	8.0	2.4	3.9
7	---	---	---	4.2	1.7	2.5	4.3	1.9	2.6	5.3	2.6	3.8
8	---	---	---	4.8	1.6	2.7	5.8	1.6	3.0	6.2	3.4	5.0
9	6.2	2.4	3.4	8.0	1.6	2.9	7.8	1.7	3.5	5.1	3.0	4.4
10	6.4	2.0	3.1	10.9	1.1	4.0	5.4	1.7	3.7	4.2	2.7	3.5
11	6.2	1.7	3.1	14.4	1.4	5.4	7.1	2.3	4.6	4.4	2.7	3.4
12	7.8	1.5	3.1	14.9	2.0	6.6	8.9	3.5	5.7	4.3	2.6	3.5
13	8.1	1.7	3.5	12.3	2.3	5.6	7.6	4.1	5.6	5.0	2.7	3.7
14	10.6	2.1	4.0	12.0	2.5	5.3	5.5	2.9	4.2	4.1	3.1	3.7
15	10.3	2.6	5.0	11.9	2.8	5.3	5.5	2.5	3.8	5.0	3.3	3.7
16	10.8	3.1	4.9	7.0	2.2	3.4	6.6	2.9	4.4	5.5	4.1	4.6
17	8.5	2.8	4.8	5.9	1.6	2.6	7.8	3.2	5.3	5.3	4.0	4.5
18	6.6	2.5	4.1	6.5	1.5	2.5	8.2	4.3	6.2	6.2	4.2	4.7
19	4.6	2.2	3.3	4.3	1.4	2.4	7.7	4.6	5.9	5.3	4.3	4.7
20	5.1	1.8	3.0	7.4	1.4	2.9	7.4	4.2	5.6	5.3	4.1	4.6
21	5.9	2.0	3.3	9.8	1.5	4.1	6.7	4.3	5.3	5.4	4.1	4.6
22	5.9	1.9	3.2	10.4	1.6	5.1	7.3	3.3	4.7	5.6	3.8	4.5
23	6.0	1.6	3.0	11.9	1.1	4.2	7.6	3.6	5.1	5.3	3.5	4.3
24	5.2	1.5	3.0	10.9	1.0	3.4	7.9	4.0	5.5	5.0	3.2	4.1
25	6.6	1.7	3.2	7.9	1.0	2.9	6.3	4.2	5.2	5.4	3.2	4.2
26	8.5	1.5	3.5	11.0	1.0	3.1	6.8	3.0	4.2	5.4	3.5	4.4
27	8.5	1.5	3.6	13.9	1.0	4.8	8.3	2.7	4.8	6.1	3.7	4.8
28	8.1	1.4	3.6	12.2	1.6	5.5	8.3	4.9	5.9	6.2	4.0	5.0
29	11.8	1.5	4.5	13.4	2.2	6.0	5.2	4.2	4.7	6.7	3.8	4.7
30	10.8	1.9	4.4	12.7	2.8	6.4	4.2	2.9	3.6	6.4	3.5	4.5
31	---	---	---	9.6	3.0	5.9	3.6	2.6	3.1	---	---	---
<b>Month</b>	11.9	1.4	3.8	14.9	1.0	4.2	8.9	1.0	4.3	8.5	2.3	4.1

	<b>Max</b>	<b>Min</b>	<b>Mean</b>
<b>Year</b>	14.9	1.0	6.9

**01484080 MURDERKILL RIVER AT FREDERICA, DE—Continued**

