

0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA

Roanoke Basin
Upper Roanoke Subbasin

LOCATION.--Lat 37°16'03", long 79°58'03" referenced to North American Datum of 1927, Roanoke City, VA, Hydrologic Unit 03010101.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 2007 to September 2008 (discontinued).

PERIOD OF DAILY RECORD.--

pH: November 2007 to September 2008.

SPECIFIC CONDUCTANCE: November 2007 to September 2008.

TURBIDITY: November 2007 to September 2008.

WATER TEMPERATURE: November 2007 to September 2008.

INSTRUMENTATION.--Water-quality monitor November 2007 to September 2008. Electronic data logger with 15-minute recording interval.

REMARKS.--

pH: Records excellent: Nov. 2 to Jan. 30 and Aug. 15 to Sept. 30; Good: Jan. 30 to Feb. 25.

SPECIFIC CONDUCTANCE: Records excellent: Nov. 2 to Apr. 7, July 31 to Aug. 15, and Sept. 17-30; Good: Apr. 7-29, May 27 to July 31, and Aug. 15 to Sept. 17; Fair: Apr. 29 to May 27.

TURBIDITY: Records excellent: Nov. 2 to Jan. 30, Apr. 7 to July 28, and July 31 to Sept. 30; Good: Jan. 30 to Apr. 7; Fair: July 28-31.

WATER TEMPERATURE: Records excellent.

EXTREMES FOR PERIOD OF RECORD.--

pH: Maximum, 8.7 standard units, on several days, but may have been higher during periods of missing record; minimum, 7.9 standard units, on several days, but may have been lower during periods of missing record.

SPECIFIC CONDUCTANCE: Maximum, 554 microseimens/cm, Feb. 27, 2008, but may have been higher during periods of missing record; minimum, not determined.

TURBIDITY: Maximum, 510 Formazin Nephelometric Units, July 24, 2008, but may have been higher during periods of missing record; minimum, 0.0 Formazin Nephelometric Units, on several days.

WATER TEMPERATURE: Maximum, 29.7°C, June 7, 10, 2008, but may have been higher during periods of missing record; minimum, -0.1°C, Jan. 21, 2008, but may have been lower during periods of missing record.

EXTREMES FOR CURRENT YEAR.--

pH: Maximum, 8.7 standard units, on several days; minimum, 7.9 standard units, Feb. 7, 17, 18, 19, 25.

SPECIFIC CONDUCTANCE: Maximum, 554 microsiemens/cm, Feb. 1; minimum, not determined.

TURBIDITY: Maximum, 510 FNU, July 24; minimum, 0.0 FNU, on several days.

WATER TEMPERATURE: Maximum, 29.7°C, June 7, 10; minimum, -0.1°C, Jan. 21.

0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	October			November			December			January		
1	---	---	---	---	---	---	8.5	8.3	8.4	8.6	8.2	8.4
2	---	---	---	---	---	---	---	---	---	8.6	8.2	8.4
3	---	---	---	8.4	8.2	8.3	---	---	---	8.6	8.2	8.4
4	---	---	---	8.4	8.3	8.3	8.5	8.3	8.4	8.5	8.2	8.3
5	---	---	---	8.4	8.3	8.3	---	---	---	8.6	8.2	8.4
6	---	---	---	8.4	8.3	8.3	8.5	8.3	8.4	8.6	8.2	8.4
7	---	---	---	8.4	8.3	8.4	8.5	8.3	8.4	8.7	8.2	8.4
8	---	---	---	8.4	8.3	8.4	8.5	8.3	8.3	8.7	8.2	8.4
9	---	---	---	8.4	8.3	8.3	8.5	8.3	8.3	8.7	8.2	8.4
10	---	---	---	8.4	8.3	8.3	8.5	8.2	8.3	8.5	8.2	8.3
11	---	---	---	8.4	8.3	8.3	8.5	8.2	8.3	8.7	8.1	8.4
12	---	---	---	8.4	8.3	8.3	8.5	8.2	8.3	8.7	8.2	8.4
13	---	---	---	8.4	8.2	8.3	8.4	8.2	8.3	8.7	8.2	8.4
14	---	---	---	8.4	8.2	8.3	8.5	8.2	8.3	8.7	8.2	8.4
15	---	---	---	8.4	8.2	8.3	8.4	8.3	8.3	8.7	8.3	8.4
16	---	---	---	8.4	8.2	8.3	8.4	8.1	8.3	8.7	8.3	8.4
17	---	---	---	8.5	8.3	8.3	8.5	8.2	8.4	8.6	8.2	8.4
18	---	---	---	8.4	8.3	8.3	8.5	8.3	8.4	8.6	8.2	8.3
19	---	---	---	8.4	8.2	8.3	8.5	8.3	8.4	8.5	8.1	8.3
20	---	---	---	8.4	8.2	8.3	8.6	8.3	8.4	8.5	8.2	8.3
21	---	---	---	8.4	8.2	8.3	8.5	8.3	8.4	8.5	8.2	8.3
22	---	---	---	8.4	8.2	8.3	8.5	8.3	8.3	8.5	8.1	8.3
23	---	---	---	8.4	8.2	8.3	8.5	8.3	8.3	8.5	8.1	8.3
24	---	---	---	8.5	8.3	8.4	8.6	8.2	8.4	8.5	8.1	8.3
25	---	---	---	8.4	8.3	8.3	8.7	8.3	8.5	8.5	8.2	8.3
26	---	---	---	8.3	8.2	8.3	8.6	8.3	8.4	8.5	8.1	8.3
27	---	---	---	8.4	8.2	8.3	8.7	8.3	8.4	8.6	8.1	8.3
28	---	---	---	8.4	8.2	8.3	8.4	8.1	8.3	8.6	8.1	8.3
29	---	---	---	---	---	---	8.4	8.0	8.3	8.5	8.1	8.3
30	---	---	---	---	---	---	8.3	8.1	8.2	8.6	8.1	8.3
31	---	---	---	---	---	---	8.6	8.1	8.3	8.6	8.2	8.4
Max	---	---	---	---	---	---	---	---	---	8.7	8.3	8.4
Min	---	---	---	---	---	---	---	---	---	8.5	8.1	8.3

0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	February			March			April			May		
1	8.4	8.1	8.2	---	---	---	---	---	---	---	---	---
2	8.4	8.1	8.3	---	---	---	---	---	---	---	---	---
3	8.4	8.0	8.2	---	---	---	---	---	---	---	---	---
4	8.5	8.0	8.2	---	---	---	---	---	---	---	---	---
5	8.6	8.0	8.2	---	---	---	---	---	---	---	---	---
6	8.3	8.0	8.2	---	---	---	---	---	---	---	---	---
7	8.6	7.9	8.3	---	---	---	---	---	---	---	---	---
8	8.6	8.1	8.3	---	---	---	---	---	---	---	---	---
9	8.7	8.0	8.3	---	---	---	---	---	---	---	---	---
10	8.7	8.0	8.3	---	---	---	---	---	---	---	---	---
11	8.5	8.1	8.3	---	---	---	---	---	---	---	---	---
12	8.5	8.1	8.2	---	---	---	---	---	---	---	---	---
13	8.3	8.0	8.1	---	---	---	---	---	---	---	---	---
14	8.5	8.0	8.2	---	---	---	---	---	---	---	---	---
15	8.6	8.0	8.3	---	---	---	---	---	---	---	---	---
16	8.5	8.0	8.2	---	---	---	---	---	---	---	---	---
17	8.2	7.9	8.1	---	---	---	---	---	---	---	---	---
18	8.5	7.9	8.1	---	---	---	---	---	---	---	---	---
19	8.4	7.9	8.2	---	---	---	---	---	---	---	---	---
20	8.4	8.0	8.2	---	---	---	---	---	---	---	---	---
21	8.4	8.0	8.2	---	---	---	---	---	---	---	---	---
22	8.4	8.0	8.2	---	---	---	---	---	---	---	---	---
23	8.4	8.0	8.2	---	---	---	---	---	---	---	---	---
24	8.4	8.0	8.2	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Max	---	---	---	---	---	---	---	---	---	---	---	---
Min	---	---	---	---	---	---	---	---	---	---	---	---

0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	June			July			August			September		
1	---	---	---	---	---	---	---	---	---	8.5	8.2	8.3
2	---	---	---	---	---	---	---	---	---	8.4	8.2	8.3
3	---	---	---	---	---	---	---	---	---	8.4	8.2	8.3
4	---	---	---	---	---	---	---	---	---	8.4	8.1	8.3
5	---	---	---	---	---	---	---	---	---	8.4	8.1	8.3
6	---	---	---	---	---	---	---	---	---	8.3	8.1	8.2
7	---	---	---	---	---	---	---	---	---	8.4	8.0	8.1
8	---	---	---	---	---	---	---	---	---	8.4	8.1	8.2
9	---	---	---	---	---	---	---	---	---	8.3	8.1	8.2
10	---	---	---	---	---	---	---	---	---	8.4	8.1	8.2
11	---	---	---	---	---	---	---	---	---	8.3	8.2	8.3
12	---	---	---	---	---	---	---	---	---	8.5	8.2	8.3
13	---	---	---	---	---	---	---	---	---	8.5	8.2	8.3
14	---	---	---	---	---	---	---	---	---	8.5	8.1	8.3
15	---	---	---	---	---	---	---	---	---	8.5	8.2	8.3
16	---	---	---	---	---	---	8.6	8.2	8.4	8.4	8.2	8.3
17	---	---	---	---	---	---	8.7	8.3	8.4	8.6	8.2	8.3
18	---	---	---	---	---	---	8.6	8.2	8.4	8.5	8.3	8.4
19	---	---	---	---	---	---	8.6	8.2	8.3	8.5	8.2	8.3
20	---	---	---	---	---	---	8.6	8.1	8.4	8.5	8.2	8.4
21	---	---	---	---	---	---	8.5	8.1	8.3	8.6	8.2	8.4
22	---	---	---	---	---	---	8.5	8.1	8.3	8.6	8.2	8.4
23	---	---	---	---	---	---	8.5	8.1	8.3	8.6	8.2	8.3
24	---	---	---	---	---	---	8.5	8.1	8.3	8.6	8.3	8.4
25	---	---	---	---	---	---	8.5	8.1	8.3	8.5	8.3	8.4
26	---	---	---	---	---	---	8.4	8.1	8.2	8.4	8.2	8.3
27	---	---	---	---	---	---	8.3	8.0	8.1	8.5	8.0	8.1
28	---	---	---	---	---	---	8.3	8.0	8.3	8.5	8.1	8.3
29	---	---	---	---	---	---	8.4	8.3	8.3	8.5	8.2	8.3
30	---	---	---	---	---	---	8.5	8.2	8.3	8.5	8.2	8.3
31	---	---	---	---	---	---	8.4	8.2	8.3	---	---	---
Max	---	---	---	---	---	---	---	---	---	8.6	8.3	8.4
Min	---	---	---	---	---	---	---	---	---	8.3	8.0	8.1

0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA—Continued

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

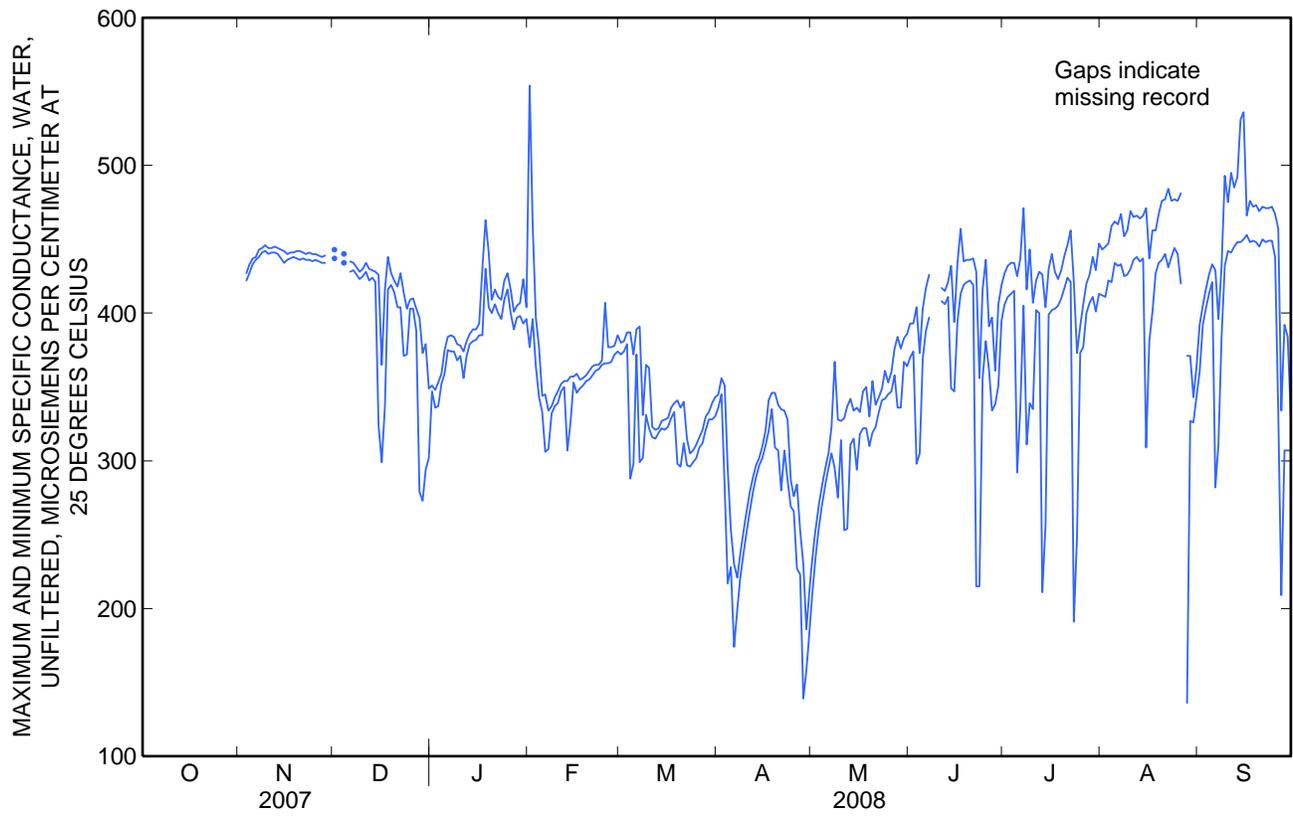
Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	October		November		December		January		February		March	
1	---	---	---	---	443	437	351	347	554	377	380	372
2	---	---	---	---	---	---	348	336	460	396	381	374
3	---	---	427	422	---	---	353	337	397	364	387	379
4	---	---	433	427	440	434	359	352	377	343	387	288
5	---	---	437	433	---	---	375	359	344	333	372	298
6	---	---	438	436	435	428	384	375	345	306	389	372
7	---	---	443	438	434	429	385	374	334	308	391	299
8	---	---	444	441	431	426	384	374	337	332	331	302
9	---	---	446	442	428	423	379	368	343	337	365	331
10	---	---	444	440	430	425	378	371	347	339	363	322
11	---	---	444	441	434	428	374	356	352	347	323	316
12	---	---	445	441	430	422	381	371	354	350	321	315
13	---	---	444	440	429	424	386	379	354	307	322	319
14	---	---	443	437	428	421	389	381	357	325	327	322
15	---	---	442	434	426	324	389	382	357	353	328	321
16	---	---	440	436	365	299	393	385	359	346	329	323
17	---	---	441	437	416	337	430	385	355	349	336	329
18	---	---	441	438	438	416	463	430	356	351	339	333
19	---	---	442	437	427	419	441	404	358	354	341	298
20	---	---	442	436	422	414	409	400	361	355	336	296
21	---	---	441	437	418	404	416	406	364	358	340	312
22	---	---	440	436	427	404	411	400	365	361	315	297
23	---	---	441	436	414	371	409	396	365	362	305	296
24	---	---	440	435	403	372	422	409	368	365	307	299
25	---	---	440	436	409	403	427	416	407	366	311	302
26	---	---	439	435	410	403	416	400	377	366	316	309
27	---	---	438	434	403	388	401	389	377	367	321	312
28	---	---	439	434	397	279	405	397	378	372	330	321
29	---	---	---	---	373	273	407	398	385	374	333	328
30	---	---	---	---	379	294	423	393	---	---	339	328
31	---	---	---	---	349	302	404	396	---	---	343	330
Month	---	---	---	---	---	---	463	336	554	306	391	288

0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA—Continued

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	April		May		June		July		August		September	
1	345	336	236	213	393	370	427	406	443	412	392	360
2	356	345	256	236	393	374	432	411	445	411	405	392
3	351	282	271	256	404	298	434	413	447	422	416	403
4	295	217	283	271	373	305	434	415	459	421	426	413
5	253	228	295	283	403	369	425	292	462	434	433	421
6	230	174	305	295	417	388	437	336	460	432	429	282
7	221	199	323	305	426	397	471	405	467	433	396	311
8	237	221	367	295	---	---	416	311	452	425	432	384
9	252	237	328	275	---	---	443	339	456	426	493	432
10	266	252	327	314	---	---	407	335	469	430	475	442
11	279	266	329	253	417	408	422	402	465	436	495	441
12	289	279	337	254	415	406	428	400	466	438	485	445
13	297	289	342	311	421	411	426	211	464	435	492	448
14	302	297	334	315	432	349	404	256	466	437	531	448
15	310	302	336	294	394	347	430	399	471	309	536	450
16	320	310	333	318	434	394	440	402	437	381	466	453
17	341	320	347	322	457	413	428	403	456	401	476	448
18	346	335	350	322	435	419	423	405	456	427	472	449
19	346	309	330	310	436	421	429	410	467	434	473	448
20	338	307	354	319	436	422	439	417	476	436	469	445
21	335	280	338	323	437	419	446	424	477	440	472	450
22	334	307	343	333	428	215	456	421	484	431	471	448
23	328	287	349	341	356	215	421	191	476	438	471	449
24	287	269	361	342	416	356	373	249	477	444	472	449
25	276	266	353	345	436	381	391	373	476	440	467	438
26	284	227	360	347	391	362	406	377	481	420	457	332
27	253	223	376	358	397	334	420	400	---	---	334	209
28	230	139	384	336	361	338	426	407	371	136	392	307
29	186	158	376	336	406	351	438	411	371	327	384	307
30	213	186	383	367	419	395	429	401	343	326	329	307
31	---	---	386	364	---	---	447	413	363	343	---	---
Month	356	139	386	213	---	---	471	191	---	---	536	209

0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA—Continued



0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	October			November			December			January		
1	---	---	---	---	---	---	1.7	1.0	1.2	5.8	0.6	1.1
2	---	---	---	---	---	---	---	---	---	0.9	0.5	0.7
3	---	---	---	2.9	0.3	1.2	---	---	---	0.8	0.4	0.5
4	---	---	---	2.9	1.3	1.8	1.2	0.7	0.9	0.6	0.3	0.4
5	---	---	---	3.3	0.7	1.6	---	---	---	1.0	0.3	0.5
6	---	---	---	3.6	1.3	2.5	0.6	0.0	0.1	1.6	0.3	0.6
7	---	---	---	2.7	0.5	1.0	0.5	0.0	0.1	2.7	1.1	1.5
8	---	---	---	1.8	0.4	0.9	1.2	0.0	0.1	2.7	1.4	2.0
9	---	---	---	---	---	---	2.2	0.7	1.5	3.8	1.9	2.5
10	---	---	---	---	---	---	2.7	1.3	2.0	6.0	1.7	2.6
11	---	---	---	3.5	1.8	2.3	4.0	2.0	2.8	16	2.2	3.6
12	---	---	---	4.8	2.8	3.7	3.8	2.0	2.6	2.9	1.2	1.6
13	---	---	---	11	4.0	5.5	3.0	1.5	2.3	1.7	0.8	1.3
14	---	---	---	6.3	3.5	4.5	2.1	1.1	1.6	1.0	0.6	0.8
15	---	---	---	6.6	2.2	3.1	35	0.9	1.2	1.0	0.6	0.7
16	---	---	---	2.5	1.2	1.7	43	3.7	10	1.2	0.7	0.9
17	---	---	---	2.4	1.3	1.6	4.2	1.1	1.5	2.6	0.9	1.1
18	---	---	---	3.2	1.5	1.9	1.3	0.2	0.9	9.0	0.8	2.7
19	---	---	---	4.3	2.3	2.7	1.5	0.3	0.5	3.4	1.0	2.7
20	---	---	---	3.2	1.1	2.3	1.0	0.1	0.5	1.2	0.3	0.5
21	---	---	---	3.1	1.9	2.3	1.8	0.7	1.1	1.1	0.2	0.4
22	---	---	---	3.6	1.6	2.1	1.1	0.6	0.8	1.4	0.4	0.7
23	---	---	---	3.2	1.0	1.4	4.9	0.8	2.5	2.0	0.4	0.6
24	---	---	---	1.4	0.8	1.0	2.6	0.3	0.9	1.0	0.4	0.6
25	---	---	---	1.9	1.0	1.3	0.8	0.2	0.4	0.7	0.2	0.3
26	---	---	---	2.4	1.4	1.7	1.1	0.4	0.6	0.5	0.2	0.3
27	---	---	---	3.2	1.7	2.0	0.6	0.0	0.3	1.3	0.4	0.6
28	---	---	---	2.2	1.1	1.5	36	0.1	0.3	3.6	0.4	1.0
29	---	---	---	---	---	---	21	4.5	12	3.6	1.2	1.8
30	---	---	---	---	---	---	15	3.3	5.7	2.4	0.6	1.2
31	---	---	---	---	---	---	15	2.7	4.6	3.5	0.3	0.5
Max	---	---	---	---	---	---	---	---	---	16	2.2	3.6
Min	---	---	---	---	---	---	---	---	---	0.5	0.2	0.3

0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	February			March			April			May		
1	44	0.3	21	3.8	1.1	1.7	7.9	3.3	4.3	15	7.6	9.5
2	20	7.3	13	---	---	---	8.8	4.1	5.5	9.8	5.6	7.2
3	10	3.9	5.1	4.8	1.5	2.6	66	2.7	5.2	8.3	4.5	5.9
4	6.6	3.0	4.0	74	3.0	4.3	150	28	62	10	3.4	5.5
5	10	2.7	4.2	36	5.0	9.0	---	---	---	7.4	2.7	3.9
6	77	2.7	5.1	9.1	1.9	4.1	81	22	68	5.6	2.2	3.8
7	28	4.8	13	47	3.1	4.8	69	17	34	4.6	1.8	3.1
8	16	2.0	4.9	13	5.0	9.3	17	8.2	10	58	1.9	3.6
9	---	---	---	6.1	1.0	2.8	11	6.3	7.8	320	6.1	11
10	3.6	1.3	2.1	4.5	0.0	1.8	10	5.4	7.5	12	1.4	3.8
11	1.9	0.6	0.9	7.0	2.6	3.7	12	4.6	6.1	290	3.2	5.2
12	1.4	0.5	0.7	7.6	2.4	4.0	9.0	3.6	4.5	21	5.2	8.3
13	20	1.1	5.9	7.4	3.0	4.7	5.7	2.5	3.5	6.5	2.6	4.6
14	5.7	1.0	1.6	13	3.3	5.3	3.2	1.2	2.0	6.3	1.6	2.9
15	2.3	0.7	1.1	11	3.3	5.5	3.0	1.0	2.1	30	3.2	4.5
16	4.5	1.9	2.6	5.8	2.6	4.0	3.8	1.3	2.6	6.7	2.1	3.8
17	8.0	2.1	3.1	5.0	1.9	3.4	4.5	1.6	2.5	5.4	2.3	3.5
18	4.3	1.9	2.8	4.3	2.2	3.3	18	2.0	2.9	5.7	2.2	3.5
19	3.2	1.0	1.8	60	2.9	4.2	100	2.3	3.3	6.9	3.0	4.5
20	1.4	0.8	0.9	60	8.3	13	26	4.5	6.1	7.4	2.2	4.0
21	3.2	0.8	1.0	24	6.7	9.0	33	5.6	7.6	5.4	1.9	3.2
22	2.2	0.8	1.0	19	5.2	8.3	6.7	3.9	5.2	5.0	1.5	3.2
23	2.9	1.0	1.4	12	3.2	4.6	10	4.9	6.2	5.8	1.4	3.0
24	2.1	0.9	1.3	5.0	1.7	3.1	9.2	5.0	6.5	5.0	1.6	2.9
25	---	---	---	4.9	1.2	2.4	8.4	4.2	5.9	5.2	0.8	2.8
26	---	---	---	6.9	1.8	3.5	150	3.1	6.1	4.4	0.6	2.7
27	3.3	0.9	1.8	13	3.7	5.9	130	15	65	4.7	0.2	2.2
28	2.5	0.6	0.9	9.3	3.5	4.6	410	79	260	8.4	1.6	3.1
29	2.6	0.7	0.9	11	2.8	4.5	240	35	68	4.0	1.1	2.5
30	---	---	---	7.7	3.3	4.5	38	14	20	3.3	0.4	1.6
31	---	---	---	6.3	2.1	3.3	---	---	---	2.9	0.4	1.7
Max	---	---	---	---	---	---	---	---	---	320	7.6	11
Min	---	---	---	---	---	---	---	---	---	2.9	0.2	1.6

0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	June			July			August			September		
1	3.4	0.6	2.0	11	4.9	7.1	11	3.9	6.2	8.5	2.7	5.5
2	3.9	0.1	2.1	9.6	3.7	6.7	9.8	3.8	6.3	13	2.1	4.5
3	70	1.0	2.5	12	2.8	6.1	9.3	3.4	5.8	7.1	2.2	4.3
4	54	2.5	6.2	10	3.2	6.0	9.1	3.1	5.3	7.1	1.8	4.2
5	5.3	1.9	3.7	40	4.0	13	9.1	3.5	5.5	6.2	2.2	4.1
6	5.7	1.2	3.3	9.1	3.5	6.8	10	3.0	5.7	46	2.4	13
7	4.9	1.3	3.2	27	3.6	6.8	9.5	4.3	5.9	7.9	2.4	5.9
8	---	---	---	21	6.8	14	11	4.0	6.9	6.4	2.5	4.1
9	---	---	---	37	5.0	7.9	9.7	3.3	5.8	6.3	2.5	4.5
10	---	---	---	31	4.3	12	16	3.3	6.2	7.7	3.9	5.4
11	5.2	1.6	3.0	12	3.3	7.0	11	2.9	5.3	6.7	3.4	4.8
12	5.5	1.8	3.4	9.8	2.0	5.2	8.6	3.2	5.0	6.6	2.6	4.7
13	5.6	1.6	3.4	120	2.8	6.0	11	3.5	5.6	6.3	1.9	3.2
14	18	2.1	4.6	38	5.6	12	9.3	2.6	5.2	7.0	1.7	3.5
15	12	3.3	6.5	11	4.1	7.6	35	1.7	4.9	6.9	1.9	3.7
16	6.6	2.2	4.5	12	6.4	9.7	13	3.5	7.2	7.5	3.0	5.1
17	7.3	1.7	4.3	12	2.6	7.8	5.2	1.8	3.6	7.4	1.3	4.8
18	6.8	1.9	4.0	6.3	2.4	3.9	7.2	2.0	3.5	5.3	1.6	3.0
19	7.2	1.8	3.9	6.4	2.2	3.8	5.9	1.8	3.5	9.1	2.5	3.6
20	7.1	1.7	3.9	6.2	2.2	3.8	6.1	2.0	4.2	5.6	2.1	3.6
21	9.1	1.6	4.2	6.1	1.6	3.2	6.7	2.4	3.9	4.9	1.7	3.3
22	120	4.0	7.9	7.4	1.4	3.2	6.4	2.5	4.0	5.5	1.6	3.0
23	250	16	39	87	7.4	33	9.9	2.4	5.2	5.8	1.9	3.2
24	22	5.3	10	510	19	74	8.7	2.6	3.5	4.6	1.4	2.9
25	14	4.4	9.2	22	7.6	16	6.6	1.6	4.1	5.0	1.9	3.0
26	10	2.8	6.9	16	5.9	11	9.5	2.0	4.3	24	3.6	6.1
27	23	4.5	7.9	34	6.3	14	290	4.2	150	150	19	52
28	18	4.6	11	---	---	---	170	18	36	32	4.8	13
29	12	4.8	8.3	---	---	---	18	5.8	10	7.7	5.0	6.0
30	11	4.4	7.6	---	---	---	11	3.3	7.7	9.4	4.0	6.2
31	---	---	---	---	---	---	8.9	2.9	5.6	---	---	---
Max	---	---	---	---	---	---	290	18	150	150	19	52
Min	---	---	---	---	---	---	5.2	1.6	3.5	4.6	1.3	2.9

0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	October		November		December		January		February		March	
1	---	---	---	---	7.3	5.5	6.3	4.4	4.2	3.6	8.7	5.2
2	---	---	---	---	---	---	4.4	1.3	4.9	3.0	10.1	6.2
3	---	---	11.5	9.5	---	---	1.5	0.1	6.4	4.1	11.6	7.5
4	---	---	11.5	9.8	5.6	4.1	1.9	0.0	7.8	5.9	12.9	11.0
5	---	---	11.3	9.2	---	---	3.4	1.2	10.2	7.5	12.6	10.2
6	---	---	11.6	9.6	4.5	3.0	5.9	3.4	11.6	10.1	12.0	8.5
7	---	---	9.8	8.1	4.3	2.9	8.0	5.5	11.0	9.2	10.7	9.2
8	---	---	8.6	7.2	6.8	4.3	9.0	7.0	9.6	7.7	10.7	7.5
9	---	---	9.1	7.5	9.4	6.8	10.6	8.4	9.7	7.3	8.1	4.8
10	---	---	9.3	8.3	11.7	8.9	9.3	7.8	8.6	5.5	9.8	5.9
11	---	---	9.0	7.0	13.1	11.2	9.5	7.6	5.5	3.1	10.7	8.2
12	---	---	11.1	8.2	12.9	11.0	8.7	7.4	4.1	3.4	11.7	7.9
13	---	---	12.3	11.0	12.8	11.4	7.7	6.3	5.3	3.8	12.8	8.7
14	---	---	13.1	11.5	11.4	9.9	6.3	4.8	5.6	2.7	13.4	10.6
15	---	---	13.0	10.1	9.9	6.4	4.9	3.5	7.3	3.9	13.0	11.1
16	---	---	10.1	8.1	6.7	5.4	3.7	2.3	9.3	6.7	14.1	10.8
17	---	---	8.7	6.8	5.4	3.4	3.4	2.0	8.6	7.4	12.2	9.7
18	---	---	9.6	7.1	4.0	2.5	5.1	2.4	10.5	7.4	11.2	9.2
19	---	---	10.6	8.8	4.8	3.6	4.7	4.0	8.8	5.8	12.6	10.6
20	---	---	12.2	9.9	5.9	4.2	4.0	0.8	6.4	4.8	13.2	10.3
21	---	---	13.0	10.6	5.6	5.1	1.8	-0.1	5.6	4.3	12.6	9.3
22	---	---	13.5	10.9	6.0	5.3	2.1	0.5	5.4	4.2	13.4	10.1
23	---	---	10.9	8.2	7.5	6.0	4.5	2.1	6.6	4.8	12.2	10.0
24	---	---	8.2	6.1	6.7	5.2	3.6	2.1	6.0	5.0	11.2	9.3
25	---	---	8.0	6.6	6.3	5.1	2.3	0.3	8.7	5.3	11.8	7.8
26	---	---	9.2	7.9	6.3	5.5	3.1	1.5	8.5	7.4	14.0	9.3
27	---	---	10.5	9.2	6.6	5.0	4.8	2.8	7.6	4.5	15.4	12.1
28	---	---	9.2	7.5	6.4	5.5	5.8	3.5	5.6	2.7	15.7	13.5
29	---	---	---	---	8.0	6.4	6.6	5.2	5.9	3.4	15.5	13.3
30	---	---	---	---	7.4	6.8	6.8	5.2	---	---	13.8	10.0
31	---	---	---	---	7.1	5.8	5.2	3.6	---	---	10.3	9.3
Month	---	---	---	---	---	---	10.6	-0.1	11.6	2.7	15.7	4.8

0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	April		May		June		July		August		September	
1	14.7	10.2	15.7	12.0	24.6	22.4	23.8	21.1	27.6	23.9	24.5	21.7
2	15.6	12.6	18.4	14.0	24.9	20.9	25.0	19.8	26.8	24.7	25.4	21.4
3	14.2	10.2	18.5	16.2	23.4	21.1	25.6	21.4	27.6	23.7	25.7	21.6
4	11.2	9.1	19.9	16.3	25.4	20.8	24.6	22.6	27.9	23.3	26.1	22.1
5	12.6	10.9	19.1	16.1	28.0	23.3	24.1	22.2	26.9	24.2	25.6	22.3
6	12.4	10.9	18.3	16.2	29.2	24.7	24.4	22.6	27.2	24.3	24.7	22.3
7	11.2	9.2	18.9	15.9	29.7	25.5	24.5	22.0	26.4	24.4	25.1	21.8
8	12.9	10.6	20.0	18.0	---	---	25.0	22.5	26.5	22.7	25.3	22.1
9	15.1	11.5	19.7	18.1	---	---	24.9	22.7	26.2	21.7	24.4	22.5
10	17.3	13.0	21.1	17.5	---	---	25.5	22.8	26.4	22.6	22.7	21.0
11	18.5	14.8	19.1	15.2	27.7	25.3	27.5	23.2	25.1	22.2	21.0	20.0
12	18.7	17.1	15.2	14.1	26.5	24.4	28.2	23.4	25.6	20.9	23.5	19.8
13	17.2	13.0	17.6	13.1	27.2	24.0	27.1	24.8	24.0	22.2	25.8	21.5
14	13.0	11.0	16.8	15.0	27.1	24.3	27.5	23.4	24.5	21.3	27.0	23.4
15	14.3	9.5	18.5	16.0	26.8	23.1	26.9	23.1	24.4	19.7	26.1	23.8
16	15.5	11.0	18.8	17.1	26.8	22.7	27.5	23.0	25.4	21.2	24.6	21.4
17	17.1	12.4	20.0	16.3	26.3	22.9	27.9	23.3	25.3	21.9	23.2	20.5
18	19.0	14.5	18.7	15.8	24.6	21.2	28.3	23.8	26.3	22.4	23.5	20.1
19	17.7	15.9	18.5	15.0	23.7	20.4	27.0	24.4	27.4	22.9	22.2	20.4
20	17.5	14.5	19.6	16.4	23.8	20.1	27.9	24.3	26.9	23.7	22.2	19.1
21	16.7	15.2	18.9	16.9	24.8	21.4	29.6	25.1	25.9	23.8	21.5	18.5
22	15.8	15.1	19.9	15.6	24.2	21.9	29.6	25.8	26.5	22.4	22.3	18.6
23	18.8	14.8	19.3	17.3	24.7	20.9	27.4	23.8	25.9	23.2	21.6	19.4
24	20.5	16.6	21.5	17.4	25.9	21.8	25.5	21.7	25.8	22.5	21.4	18.1
25	20.2	17.6	21.7	17.8	26.1	21.7	25.8	22.2	25.6	22.9	19.9	17.7
26	20.9	17.7	23.1	18.9	27.3	22.8	26.6	22.9	24.8	22.1	17.7	17.0
27	19.8	18.1	23.6	21.1	26.4	23.8	27.3	24.2	22.1	18.0	18.2	17.3
28	18.3	13.7	22.5	18.2	26.9	23.2	27.1	23.5	19.1	18.3	19.7	17.6
29	13.7	11.5	21.5	16.8	25.7	23.9	27.5	23.9	21.4	19.0	20.3	17.7
30	14.0	10.4	23.7	19.5	25.3	22.5	28.5	24.9	24.5	20.4	19.6	17.6
31	---	---	25.2	21.9	---	---	27.3	24.9	23.5	22.4	---	---
Month	20.9	9.1	25.2	12.0	---	---	29.6	19.8	27.9	18.0	27.0	17.0

0205492550 ROANOKE RIVER AT MEMORIAL AVENUE BRIDGE AT ROANOKE, VA—Continued

